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THE SHIP CAPTAIN'S  
MEDICAL GUIDE

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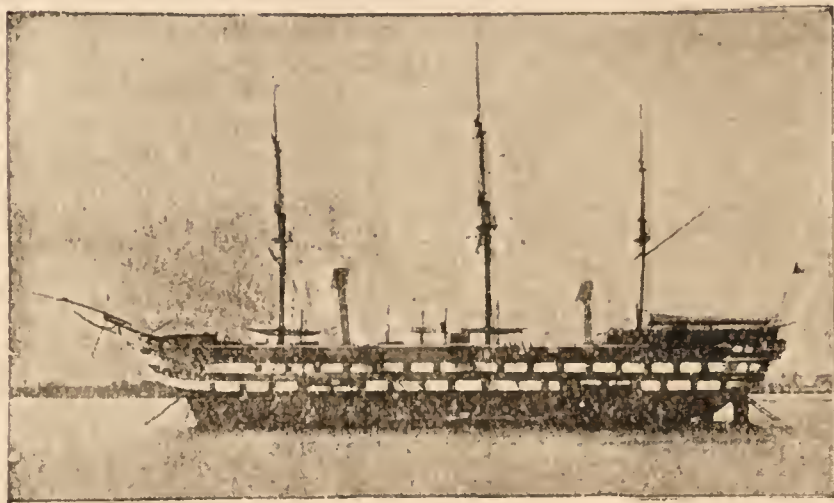
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THE SHIP CAPTAIN'S  
MEDICAL GUIDE



## NOTICE TO CAPTAINS.

# Seamen's Hospital Society

## (' DREADNOUGHT ').

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Captains arriving in the Port of London with Sick Seamen on board are requested to observe the following regulations :—

### I.—OUT-PATIENTS.

If the Patient is well enough to travel by himself, and is in need of advice and medicine only, he should be sent to one or other of the following places, whichever is nearest :—

- (a) ' DREADNOUGHT ' SEAMEN'S HOSPITAL, GREENWICH.  
from 10 A.M. to 3 P.M., or at any hour if necessary.
- (b) ROYAL VICTORIA AND ALBERT DOCKS HOSPITAL  
(Station, Connaught Road, G.E.R.), from 10 A.M. to 3 P.M.,  
or at any hour if necessary.
- (c) EAST AND WEST INDIA DOCKS DISPENSARY, JEREMIAH STREET, EAST INDIA DOCK ROAD, E., daily,  
except Sundays, from 12 noon to 2 P.M.
- (d) GRAVESEND DISPENSARY FOR SEAMEN, daily, except  
Sundays, from 9.30 to 10.15 A.M.

Should the Patient, on arrival at either of the above Dispensaries, be found to be in need of further treatment, he will be taken to one of the Hospitals.

### II.—IN-PATIENTS.

If the Patient is well enough to travel, but requires to be treated in the Wards of one of the Hospitals, he should be sent to either—

- (a) ' DREADNOUGHT ' SEAMEN'S HOSPITAL, GREENWICH.
- (b) ROYAL VICTORIA AND ALBERT DOCKS HOSPITAL, E.  
(Station, Connaught Road, G.E.R.).

Both of which are open day and night.

### III.—URGENT CASES.

If the Patient is too ill to travel in the ordinary way, telegraph to the ' DREADNOUGHT ' HOSPITAL, GREENWICH, stating where the vessel is lying, and an ambulance will be immediately despatched to remove the Patient to one of the Hospitals.

SEAMEN'S HOSPITAL SOCIETY,  
GREENWICH, S.E.

By Order,  
P. MICHELLI, *Secretary*.

*N.B.—For further particulars see Page facing end of Index.*

# THE SHIP CAPTAIN'S MEDICAL GUIDE

COMPILED BY

HARRY LEACH, M.R.C.P.

MEDICAL OFFICER OF HEALTH FOR THE PORT OF LONDON, AND  
PHYSICIAN TO THE 'DREADNOUGHT' SEAMEN'S HOSPITAL.

REVISED AND ENLARGED BY

WILLIAM SPOONER, L.R.C.P.LOND., M.R.C.S.

MEDICAL INSPECTOR OF THE BOARD OF TRADE  
FORMERLY SURGEON IN THE UNION STEAMSHIP COMPANY

FOURTEENTH EDITION

LONDON

SIMPKIN, MARSHALL, HAMILTON, KENT & CO. LTD.

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## OFFICIAL NOTICE

*The Board of Trade have sanctioned this book  
in the following words :—*

**W**HEREAS it is provided by the ‘ Merchant Shipping Act, 1894,’ as follows, viz. :—

The Board of Trade shall issue Scales of Medicines and Medical Stores suitable for different classes of ships and voyages, and shall also prepare or sanction books containing instructions for dispensing the same.

The owner of every ship navigating between the United Kingdom and any place out of the same shall provide and cause to be kept on board a supply of medicine and medical stores according to the scale appropriate to

the ship, and also the said books, or one of them :—

NOW THEREFORE, in pursuance of the powers vested in them by the provisions above recited, the Board of Trade hereby sanction a Book of Instructions, for dispensing the medicines and medical stores provided and kept on board ship, intituled ‘The Ship Captain’s Medical Guide,’ price Two Shillings, compiled by the late HARRY LEACH, M.R.C.P., and revised by WILLIAM SPOONER, L.R.C.P. Lond., M.R.C.S., late Medical Inspector of the Board of Trade.

Given under my hand, and under the Seal of the Board of Trade, this 12th day of March, 1906.



WALTER J. HOWELL,  
Assistant Secretary.

PREFACE  
TO  
THE FOURTEENTH EDITION

As this book was thoroughly revised and considerably enlarged only four and a half years ago, and there has been no alteration of the Scale of Medicines in the interval, it has not been thought necessary to make many alterations in the present edition. The new Scale of Provisions recommended by the Board of Trade has been inserted, and the List of Disinfectants approved of by them has been added. A few slight alterations have been made to bring the book up to date.



PREFACE  
TO  
THE THIRTEENTH EDITION

THE present Edition has been considerably enlarged, and contains a variety of matter not previously treated of, but which will be found useful. A number of new Diagrams have been introduced to illustrate the principles of bandaging, carrying patients, &c. This portion of the book is thus brought more in harmony with the instructions given in 'First Aid to the Injured;' but, as it is impossible to teach such subjects properly in books, the Reviser would urge Shipmasters and others to attend a course of Ambulance lectures, and thus obtain practical instruction. They may rest assured that the knowledge thus obtained, and the additional self-confidence they will feel when suddenly called

upon to act in an emergency, will amply repay the trouble. The idea—carried out to a certain extent in this Edition—of comparing the symptoms of groups of diseases in tabulated form, was derived from reading Dr. W. J. Russell's work on 'Domestic Medicine,' and may be found convenient. The Reviser has also to acknowledge several useful hints taken from Dr. Johnson Smith's book, 'The Shipmaster's Medical and Surgical Help,' and from Dr. J. Scott Riddell's 'Manual of Ambulance.'

As this book is intended solely for the use of those who are unable to call in medical assistance, and as the prescriptions have to be kept within the limits of the 'Medicine-chest,' the treatment of diseases recommended is necessarily of a simple kind. There is a larger and much more varied Scale of Medicines ordered for Passenger ships, where a doctor is carried, but that is altogether outside the scope of this work.

PREFACE  
TO  
THE TWELFTH EDITION

THIS Edition has been revised throughout, and a considerable amount of fresh matter added. The chapter relating to Wounds has been entirely rewritten, and a short account given of the modern Antiseptic Treatment. Several Diseases not previously included have been introduced, and the treatment of the others has been revised. A chapter has also been added on the use of the Clinical Thermometer. The Medicine Scale has lately been revised by a Committee appointed by the Board of Trade for the purpose, and several alterations made, to bring it in line with the new Pharmacopœia. The Reviser trusts that, although he has been somewhat limited as to space, the present Edition will be an improvement on the last.



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# THE SHIP CAPTAIN'S MEDICAL GUIDE

## GENERAL REMARKS

ALL readers of this book will be agreed that the interests of owners as well as commanders of ships are most powerfully aided by sending every vessel to sea with a sound and healthy crew. Art has accomplished a great deal in diminishing the gross amount of manual labour now required on board ship, and steam, patent reefing topsails, improved running gear, and many other recent changes have done much in assisting to reduce the number of hands required to ensure all proper speed and all possible precautionary means of safety. But, as no vessel can ever be entirely independent of her crew, it is eminently necessary that she should haul out of dock with a robust supply (as to quality) of hands; that, as far as is possible, the good men should not be called upon to do the work of the sickly as well as their



own; and that all on the articles should have a chance of 'starting fair.'

It is believed that the Merchant Shipping Act of 1894, sections 203 and 204 (extracts from which may be found at the end of this book), might, if faithfully carried out, do much to effect this very desirable object. All captains know to their cost the excessive inconvenience and serious losses that arise from shipping unhealthy men for a long voyage; men who, as soon as the ship is put to sea, present themselves aft with a bad rupture, a large ulcer, a big bubo, or a diseased heart; lay up for days, weeks, and months, give thereby additional labour to the rest of the watch, and eventually take money from the owners that they have in no wise earned. The adoption of these sections of the Act will give a practical surety to the captain that his crew are in as good order as his spars and gear, to the crew that they will not be compelled to do more than a fair day's work for a fair day's wage, and to the owner that he will really get a fair day's work out of every hand shipped.

It is now a duty to tell the reader that the following pages are written with the object of showing not only what to *do* in cases of accident and sickness, but what to *avoid*. Doctors have lately learnt much on this head, and will tell you that in the practice of their own profession much harm may be done to the body by meddling and muddling. It is very

important that this fact should be widely known, and so, acting thereupon, let the reader remember and apply the following rules :—

- (1) Follow out strictly all the recommendations enjoined in this book.
- (2) Do not take with you or use any medicines other than those recommended in this book.
- (3) When in doubt as to the nature of a disease, wait and watch.

Struggle hard and actively to *prevent* disease ; but, when you are called upon to *cure*, adopt the directions given here, meagre as they may appear, and believe (as you may most assuredly do) that your own humble efforts to restore health and prolong life will receive safe and splendid backing from the wonderful hand of Nature.

## PREVENTION OF DISEASE

MANY diseases are much more easily prevented than cured.

This is a fact that cannot be too forcibly impressed upon the minds of men who have the sole and entire charge of any community of human beings, ashore or afloat. The professional knowledge acquired by a doctor now very largely includes the art of prevention ; and commanders of ships may be assured that this art can be acquired, in a great degree, by all who will take the trouble to observe how much the health of the body depends upon proper food, pure air, cleanliness of skin, and garments suited to the weather.

We will say a few words on each of these points.

FOOD.—Many diseases are induced by eating improper food. Man has been formed for a mixed diet of animal and vegetable food. This food must contain the elements necessary to sustain the body, and in their proper proportions ; otherwise, either the body is imperfectly nourished on the one hand, or, on the other hand, an accumulation of useless



matter takes place in the blood, which leads to the whole body becoming diseased. Too much animal food, especially in hot climates, will injure the digestion, derange the liver, induce gout and rheumatism, and produce a feverish condition of the blood predisposing to many diseases. Scurvy is caused by a deficiency of the salts contained in vegetables, and mostly occurs when a monotonous salt diet, with no vegetables, is given for any length of time. It is to remedy this condition that lime-juice is issued; but with such a proper dietary scale as is now within the reach of all, lime-juice should not be required.

The quantity and description of food usually named in the dietary scales, and signed for by the crew, seem to be adopted as a matter of course from generation to generation, and are by no means such as to give the most suitable food to seamen. The food scale is a matter of contract settled between the master and seamen for each ship for each voyage, and is not in any way prescribed by the Merchant Shipping Act. A skeleton scale is printed in the articles of agreement, which provides for the insertion of other articles than salt beef and pork, biscuits, flour, and peas, which form the usual monotonous diet, but too often the blank spaces remain blank. The old-fashioned scale is not sufficiently varied; it contains too much salt meat, too much animal food generally, and no vegetables. The Board of



SCALE OF PROVISIONS drawn up by the Mercantile Marine Committee, 1902, and recommended by the Board of Trade.

	Soft Bread	Biscuit	Salt Beef	Salt Pork	Preserved Meat	Potatoes or Yams	Preserved Vegetables	Flour	Peas, Split	Peas, Green	Haricot Beans	Rice	Oatmeal	Tea	Coffee	Cocoa	Sugar	Butter	Marmalade	Jam	Syrup	Fish, dry, preserved, or fresh	Milk, Condensed	Suet	Pickles	Tomatoes, tinned or fresh	Bacon	Water	
Sunday	1	—	$\frac{1}{2}$	—	$\frac{3}{4}$	1	—	$\frac{1}{4}$	3	—	3	$\frac{1}{4}$	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4
Monday	1	1	$\frac{1}{2}$	1	$\frac{3}{4}$	1	—	$\frac{1}{4}$	3	—	3	$\frac{1}{4}$	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4
Tuesday	1	1	$\frac{1}{2}$	—	$\frac{3}{4}$	1	$\frac{1}{4}$	$\frac{1}{4}$	—	—	—	$\frac{1}{4}$	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4
Wednesday	1	1	—	1	$\frac{3}{4}$	1	$\frac{1}{4}$	$\frac{1}{4}$	3	—	—	$\frac{1}{4}$	—	—	—	—	—	—	—	—	—	$\frac{3}{4}$	—	—	—	—	—	—	4
Thursday	1	1	—	—	$\frac{3}{4}$	1	$\frac{1}{4}$	$\frac{1}{4}$	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4
Friday	1	1	$\frac{1}{2}$	—	$\frac{3}{4}$	1	—	$\frac{1}{4}$	—	3	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4
Saturday	1	—	$\frac{1}{2}$	—	—	1	—	$\frac{1}{2}$	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4
Weekly	4	3	3	2	2 $\frac{1}{4}$	7	$\frac{1}{2}$	2	6	3	6	$\frac{1}{2}$	4	1 $\frac{3}{4}$	2	2	1 $\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{1}{2}$	4	$\frac{1}{2}$	8	$\frac{1}{2}$	28	

SUBSTITUTES AND EQUIVALENTS—not to be used without reasonable cause.

Raisins 1 oz., currants 1 oz., dried figs 1 oz., apple rings 1 oz., weekly.	Fresh meat	lb.	To be considered equal.	Split peas	oz.	When issued with meat rations.
Fine salt 2 oz., mustard $\frac{1}{4}$ oz., pepper $\frac{1}{4}$ oz., chicory $\frac{1}{2}$ oz., curry powder $\frac{1}{4}$ oz., and onions 3 oz., weekly.	Salt meat	$1\frac{1}{2}$ lb.		Flour	6	
In harbour soft bread is always to be issued	Preserved meat	3 lb.		Haricot beans	8	
Within the tropics $1\frac{1}{2}$ lb. preserved meat, or 3 lbs. fresh meat, is to be substituted for the 2 lbs. salt pork.	Coffee	oz.		Rice	12	
In sailing ships, after six weeks from home ports, 1 lb. preserved potatoes may be substituted for 7 lbs. fresh potatoes.	Cocoa	$\frac{1}{2}$ lb.	do.	Raisins		In equal quantities.
Fresh vegetables may be substituted in the proportion of $\frac{1}{4}$ lb. to the ounce of preserved vegetables.	Tea	$\frac{1}{4}$ lb.	do.	Currants		
Stokehold hands to receive oatmeal and 1 quart water extra daily while under steam.	Flour	1 lb.	do.	Dried figs		
	Biscuit	1		Apple rings		
	Rice.	1		Marmalade	oz.	To be considered equal.
				Jam	8	

In port  $1\frac{1}{4}$  lb. fresh meat and  $\frac{1}{2}$  lb. fresh vegetables daily in lieu of salt and preserved meat and preserved vegetables whenever procurable at prices not excessive.

Trade in 1883 issued a circular on the subject, written by Mr. Thomas Gray, 'Dep. Paper,' No. 75, in which a new scale drawn up by Dr. Spooner was suggested and adopted more or less by many ship-owners to the great improvement of the health of crews. It was inserted in the last edition of this Guide, but is now withdrawn.

A Departmental Committee appointed in 1902 under the presidency of Sir F. Jeune, have drawn up a new scale, which is here inserted, see p. 6, and which is recommended should be generally adopted in articles of agreement instead of the old scale. It has received the concurrence of the Board of Trade, and should therefore supersede all other scales.

Until this scale is universally adopted scurvy must be prevented as much as possible by constant care in giving out lime-juice in accordance with the Merchant Shipping Act, 1894, section 200, sub-sections 4 to 8. A double allowance should be given to any man who has spots on his skin from venereal disease.

A cup of hot tea or coffee should be given directly after turning out in the morning, and the same before turning in, particularly after exposure to severe weather.

A very useful drink, both for quenching thirst and for giving endurance, is thin oatmeal and water with a little sugar. Put  $\frac{1}{4}$  lb. of oatmeal in two quarts of water, boil it well, and add 1 oz. of brown

sugar. In summer drink this cold, and in winter hot—it will be found to be very sustaining.

Be particularly careful that the provisions shipped are of good quality. It sometimes happens that casks of beef and pork which have been on the ship for twelve or eighteen months, and have become tainted, receive a fresh veneer of pickle, and are re-shipped for another voyage. Meat which has been only once pickled generally contains a certain amount of blood, which is apt to decompose in hot weather, and it is therefore important that all recently cured provisions, before being shipped for a long voyage, should be re-pickled. Casks of beef and pork should be always opened and re-pickled before starting on the homeward voyage. There is no doubt whatever that food in an incipient stage of decomposition is a very powerful agent in the development of disease—first of all diarrhœa, dysentery, or putrid fever will appear, to be afterwards followed by an attack of pure scurvy. This has frequently been noted by the medical inspectors of the Board of Trade, when holding inquiries into outbreaks of scurvy. Since 1893, however, all ships have their provisions inspected by surveyors specially appointed by the Board of Trade for the purpose, and bad food is now quite the exception.

GOOD COOKING is as important to preserve the health of the crew as a proper dietary scale, but it is an art which is very much neglected on board ship.



There is now an excellent class for instruction in sea-cooking established in Liverpool, under the superintendence of Mr. Quinlan and Mr. Mann, who have issued a very useful little manual containing some excellent recipes. Similar institutions have been established in London, Glasgow, and North Shields by the efforts of Miss Calder, of Liverpool. It would be greatly to the advantage of both shipowners and seamen if it were made a *sine quâ non* that all who wished to sign as cooks should produce a certificate that they have attended one of these classes. To the shipowners it would be an economy, and to the crew a great boon, as good meat is often rendered totally unpalatable through bad cooking, and waste of material and impaired health of the men are the result. A few useful recipes for invalids are given at the end of this book.

**WATER.**—Many diseases are caused by drinking impure water. Pure water should be clear and tasteless, and without the faintest smell of any kind.

If it be at all muddy or brown-coloured, add a little alum—about 5 grains to a gallon; this will render it clear and colourless.

If it smells or tastes at all foul, it will probably be due to putrefaction of organic matter. To purify it, add two or three drops of Crimson fluid to each gallon. Enough of the fluid should be added to give a faint pinkish tinge to the water. If there is any



organic matter in the water, the colour of Crimson fluid is destroyed immediately.

Next to boiling, the best means to purify water is by filtration, and a proper filter should be considered a necessary part of a ship's outfit. A filter is now added to the list of medical stores which it is obligatory for all merchant ships to carry. Water on board ship should be kept in iron tanks or in charred casks, otherwise it will soon become putrid. The tanks should be emptied and cleaned at the end of every voyage. Some people imagine that rain-water is unfit to drink; this is a mistake. Rain-water falling from a pure atmosphere, and properly collected, is the safest that can be obtained for drinking purposes.

Cholera and typhoid fever are frequently spread through the agency of drinking-water. If water is obtained from any locality where these diseases are prevalent, never drink it unless previously boiled, as boiling has the effect of destroying the germs of the disease. If possible, both boil and filter it. By attending to this golden rule, the liability to infection from these diseases will be much diminished.

PURE AIR is most important for the preservation of health. All human beings are constantly destroying the purity of the air they breathe, by using up the oxygen and throwing off from their lungs carbonic acid. This carbonic acid is a deadly

poison, and, if sufficiently concentrated, first gives us headaches, then causes drowsiness, and finally kills us. A certain animal effluvium is also given off from the lungs, which is very injurious. If due provision is not made for the escape of these poisons, and the entrance of a corresponding amount of fresh air, serious consequences will ensue.

Typhus fever, which, from its former prevalence on board ship, received the name of ship fever, is especially apt to break out in overcrowded and ill-ventilated ships.

Scrofula and consumption are frequently developed by breathing impure air, and the liability to scurvy is increased.

If any infectious diseases should break out, it is still more important that their poisons should be diluted and carried away by currents of fresh air, otherwise they will certainly spread from one person to another. It is far better to increase bed or body clothing than to shut out fresh or even cold air; and if you have to run the risk of catching fever or catching cold, choose the latter as the smaller evil.

Respired air, being warmer than fresh air, ascends towards the ceiling or deck, and means should be found to allow it to escape there. All forecastles and deck-houses should have one or two large screw ventilators, and they, as well as the skuttles, should be carried open in most latitudes, during the night

as well as the day, whenever weather permits. The Merchant Shipping Act provides that every place occupied by seamen shall have not less than 72 cubic feet and not less than 12 superficial feet of space for each seaman or apprentice, and that it shall be sufficiently ventilated. This amount of space is extremely small, and it is difficult to ventilate it properly without draughts. No doubt it is only owing to the fact that so much of their time is spent in the open air that sailors preserve their health as well as they do.

CLEANLINESS of the ship is most necessary for the welfare of the crew. Before sailing, see that the between-decks, the hold, and the habitations of the crew are whitewashed with quicklime. A vessel full of foul bilge-water is a floating cesspool; this therefore should be pumped out as often as possible, and sea-water should be pumped in. Burnett's fluid is admirably adapted for purifying the bilge, and should be thrown in at the commencement of a voyage in the proportion of 25 lbs. to 50 gallons of water. As, however, this disinfectant is not now contained in the medicine-chest, it can only be used in port. Should infectious disease break out at sea, Carbolic acid in the proportion of 1 pint to 5 gallons of water may be used instead.

During the voyage, the forecastle, deck-houses, and galley should be thoroughly cleaned out once a week with water in which Carbolic acid has been



mixed in the proportion of two tablespoonfuls to each bucket, or any of the disinfectants mentioned below may be used instead.

The following disinfectants have been approved of by the Board of Trade, and may be carried instead of Carbolic acid. They should be used according to the directions printed on the bottles :—

Baird & Co.'s Neosote.  
St. Bede's Disinfectant.  
Climax Sanitary Fluid.  
Pure Formalin.  
Izal Disinfectant Fluid.  
Bromo-Sanitary Fluid.

There are many other disinfecting fluids in the market which have not been analysed and passed by the Board of Trade, and one of the best among them, which is recommended in many quarters, is Sanitas ; but it should be remembered that these must be carried in addition to, and not instead of, those approved of by the Board of Trade.

It is no less important that the men themselves should be scrupulously clean, both as to their persons and their clothes. Use your best endeavours to induce the crew to wash the whole of the body every day, and rub it well with a coarse towel. Dirty and



uncleanly habits have a tendency to produce skin-diseases, and predispose to scurvy. Any clothing worn next to the skin should be frequently inspected and washed.

Take care that the crew are provided with suitable clothing. It is by no means uncommon to find men come on board with only one suit of under-clothing, which they wear from the beginning to the end of the voyage. Flannel should be worn next to the skin in all climates, to preserve the body from sudden changes of temperature, and thus guard against colds and rheumatism. Never let your men turn in in wet clothes, or dangerous consequences may ensue. A suit of oil-skins should be considered an absolute necessity. Dryness of the sleeping quarters is as essential as ventilation; see, therefore, that any leakage in the fore-castle be at once attended to. This is a point often neglected.

PREVENTION OF INFECTIOUS DISEASES, DISINFECTION, &c.—Especial precautions must be taken in the event of any infectious disease breaking out, or being likely to break out, on board ship. Infectious diseases are caused by the introduction of poisons of the nature of living germs, which enter the body from without, through the medium of the air passages, the food and drink, and the skin. They multiply within the body, and are communicable from one person to another. The

following is a list of the infectious diseases treated of in this book :—

Small-pox . . .		
Chicken-pox . . .		
Typhus fever . . .		
Scarlet fever . . .		
Measles . . .		Infectious through the air and by the clothes.
German measles . . .		
Dengue . . .		
Erysipelas . . .		
Diphtheria . . .		
Yellow fever . . .		Infectious chiefly through the vomit, and may be conveyed by the clothes and by the cargo.
Plague . . .		Infectious chiefly through the skin, and may be conveyed by the clothes, the cargo, and by food.
Typhoid fever . . .		Infectious chiefly through the bowel discharges, and by the agency of water and milk.
Cholera . . .		

If any infectious disease break out, see that the directions under the head of Cleanliness are carried out *every day*.

If possible, at once separate the sick men from the rest of the crew. If no other place is available, put them in one of the boats, protected by an awning.

A Committee recently appointed by the Board of Trade to revise the scale of medicines has recommended : ‘ That on all passenger ships there should be at least two hospitals, situated on the upper deck apart from the sleeping compartments, well ventilated and warmed, and so made available for infectious disease.’ One such hospital might easily be

erected on most non-passenger ships, and would be a great boon.

Everything that passes from the sick men, upwards or downwards, must be thrown overboard immediately, and the utensils purified.

The hold and closets and all foul places must be mopped out frequently with one of the disinfecting fluids. The best disinfectant for general use is Carbolic acid, 1 part to 40 of water. This may be used to sprinkle over the deck, to mix with the discharges, to purify soiled linen, and to cleanse the hands. Crimson fluid is also useful for these purposes, but it is less powerful and requires to be used in larger quantities. Printed directions will be found on the bottle as to the proper strength. The other disinfectants already mentioned may be used instead of Carbolic acid according to the printed directions on the bottles.

The bed and body clothes must be either burnt or disinfected in the following manner: Plunge them into boiling water with a little Carbolic acid or other disinfectant in it, and keep them there for two or three hours, then lay them out on the deck to dry.

The ship may be afterwards purified as follows: Put 6 to 8 oz. of Sulphur in a pipkin or earthen vessel, and hang or place it over a bucket of water in the quarters that the sick men have occupied. Set it alight with one or two hot coals; close all ports, skuttles, hatches, and in fact every opening,



and keep them closed for six hours. Then open out well, bring up on deck everything movable, and scrub decks, bulkheads, and all other woodwork thoroughly with Carbolic-acid water or one of the other disinfectants mentioned above.

The Sulphur fumigating candles of Kingzett may be used instead of ordinary Sulphur, and are indeed attended by less risk. Of late years the vapour of Formaldehyde has been much used for fumigating purposes, especially in the Colonies, and is thought by many to be superior to Sulphur. The Sanitas Co. keep various preparations of Formaldehyde, both in powder and tablets, with printed directions how to use them.

When *Cholera* is feared, ascertain every night and morning whether any of the crew have looseness of the bowels, and if so treat them as directed (page 110). Also pay strict attention to directions under the head of Water (page 10). When a ship arrives off a port where any infectious disease is prevalent, let her be moored as far as possible from the shore, and let the crew have no more communication with it than is absolutely necessary. Avoid if possible taking in any water or provisions from this port. Give the Quinine mixture (Recipe No. 9) every morning as a preventive, or in the case of cholera give ten drops of the Elixir of Vitriol in a little water, and do not on any account allow any unripe fruit or putrid food to be eaten.



Do all in your power to keep up the spirits of your crew and, by providing them with cheerful employment, prevent them from brooding over their own ailments. Fear is a most potent element in developing infectious disease.

DRUNKENNESS is a fruitful source of many diseases. Liver complaints, dysentery, dropsy, brain fever, apoplexy, &c., may often be traced to this cause. Most ships now sail on teetotal principles, so that during the voyage there is no fear of this occurring. Whether in strict moderation, and at the proper times, alcoholic stimulants are useful as an article of diet, is a matter on which opinions differ, and which it will be unnecessary to discuss; but if they are entirely withdrawn, an extra allowance of coffee or cocoa should be given in their place. It is on shore, and more especially at foreign ports, that drunkenness is most likely to prevail, and the bad quality of the liquor sold is as much to blame as the quantity consumed. Do all that you can, by making the ship comfortable, to lessen the inducements to frequent those villainous haunts, where poisonous drinks and foul women speedily make your men utterly useless and burdensome to you and to themselves. Give your men the opportunity of obtaining good tobacco, and, if they wish it, good beer, on board, as well as any other extras they may wish to buy, and, at ports where newspapers are published or sold, let them have copies without stint.

No ship ought to be without a supply of good books ; and draughts, chess, dominoes, and any rational amusements should be encouraged as much as possible.

Every ship is obliged to carry a certain amount of wine and brandy for medical comforts, and it must be borne in mind that these are intended solely for the use of the sick men, and must on no account (as is sometimes the case) be drunk in the cabin. Heavy penalties have been inflicted in several instances for neglecting this rule.

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## THE PUBLIC HEALTH ACT

THE Public Health Act of 1875 (amended 1885) gave to the Government power to create Port Sanitary Authorities in England and Wales, and Medical Officers of Health are now appointed at all ports, whose duties consist in preventing the importation of any infectious diseases into the kingdom by shipping, and in looking after the health and accommodation of seamen and of all others living afloat while the vessel is in port.

It is the duty of the ship master on arrival to report to the officers of Customs any cases of sickness that exist, or any cases of sickness or death that have occurred during the voyage, to afford to

the Port Medical Officer all facilities for the sanitary inspection of the vessel, and to follow out strictly his directions in all matters affecting the health of crew and passengers; for by the terms of this Act ships are treated as houses when within the jurisdiction of a Port Sanitary Authority.

Vessels cannot be detained for sanitary purposes at the entrances to British ports unless plague, cholera, or yellow fever exist on board. But any persons suffering from an infectious disease, and found on board any vessel in a British port, can and should be at once removed by the Port Medical Officer of Health to a proper hospital. This law applies to all vessels, whether inward or outward bound.

## ACCIDENTS

## BANDAGES

THE TRIANGULAR BANDAGE is a triangular piece of linen or calico (see fig. 1). The size in the official list is 48 inches at the base and 33 inches at the side, and it can be simply made by cutting a square of 33 inches into two parts from corner to corner. It may be either larger or smaller as may be con-

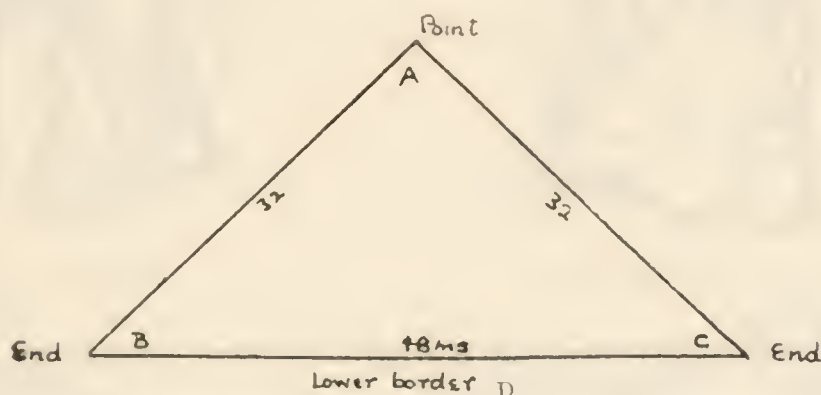


FIG. 1

venient. It is used for a variety of purposes: for stopping bleeding, covering dressings, fixing splints, or for slings. It may be applied either unfolded or folded. To fold it, bring the point A to the lower border D, and then fold into two—this is the broad bandage. If folded again, it will



make a narrow bandage. The bandage should always be fastened with pins or tied with a reef-knot. There are no fewer than twenty-two ways of applying it, but some only are given here. The directions for applying the bandage are those of the St. John's Ambulance Association.

**LARGE ARM-SLING** (fig. 2).—Spread out a bandage, put one end over the sound shoulder, let the other hang down in front of the chest; carry the point behind the elbow of the injured arm, and bend the



FIG. 2



FIG. 3

arm forward over the middle of the bandage; then carry the second end over the shoulder of the injured side and tie to the other end; bring the point forward and pin to the front of the bandage. This is used in fracture of the collar-bone.

**SMALL ARM-SLING** (fig. 3).—Fold the bandage into the broad or narrow bandage; then place one end over the shoulder on the sound side; cross the arm over the middle of the bandage hanging down the

chest, then bring the other end over the injured shoulder and tie at the side of the neck. The broad bandage is used if it is intended to include the hand,



FIG. 4



FIG. 5



FIG. 6



FIG. 7

*From 'The Medical and Surgical Handbook of the Royal Navy,  
by permission of the Medical Director-General of the Navy.*

the narrow if the arm is to be supported by the wrist.

BANDAGE FOR HEAD, represented in figs. 4 and 5.

FOR FOOT (fig. 6).—Spread out a bandage, place the foot on its centre with the toe towards the point, draw up the point over the instep, bring the two ends forward, cross and tie them either on the sole (if to keep a splint on) or round the ankle.

FOR HAND (fig. 7).—Spread out a bandage, place the wrist on the border, with the fingers towards the point; then bring the point over the wrist, pass the two ends over the wrist, cross and tie them.

FOR CHEST.—Place the middle of the bandage on the injured side, with the point over the shoulder; carry the two ends round the waist and tie them, then draw the point over the shoulder and tie to one of the ends.

FOR BACK.—As above, but beginning by placing the bandage on the back.

To keep dressings on wounds a narrow-fold bandage is applied, and bound several times round the limb.

To keep splints in position, use two narrow-fold bandages, one on either side of fracture.

To use as a tourniquet for stopping bleeding, see page 50.

ROLLER BANDAGES may be made from unbleached calico, flannel, linen, webbing, &c., and are used as supports to different parts of the body, as a means



of applying pressure, for fixing splints, dressings, &c., and for allaying muscular action. In applying a roller bandage, the following simple rules should be observed :—

- (1) Bandage from below and work upwards.
- (2) Bandage from within outwards.
- (3) Avoid all wrinkles.



FIG. 8

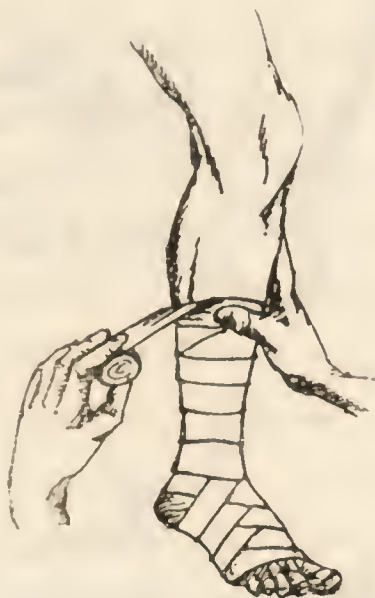


FIG. 9

**SPIRAL BANDAGE.**—When the limb is of uniform thickness, apply the spiral bandage, each turn overlapping the preceding one to the extent of two-thirds of the width of the bandage (see fig. 8).

**REVERSE SPIRAL.**—When the limb thickens, use the reverse spiral. To apply this properly, two or three turns of the simple spiral are applied, till it is seen that the bandage will no longer lie neatly. Then fix the upper part of the next layer with the thumb or forefinger of the other hand, and make a



reverse by doubling the bandage on itself as shown in fig. 9.

FIGURE-OF-8 BANDAGE.—For the joints use the figure-of-8 bandage.<sup>1</sup> To apply this—suppose it is the ankle-joint, fig. 10—fix the bandage by a few spiral turns round the foot, then carry it in

front of the joint,  
round the back  
of the ankle, and

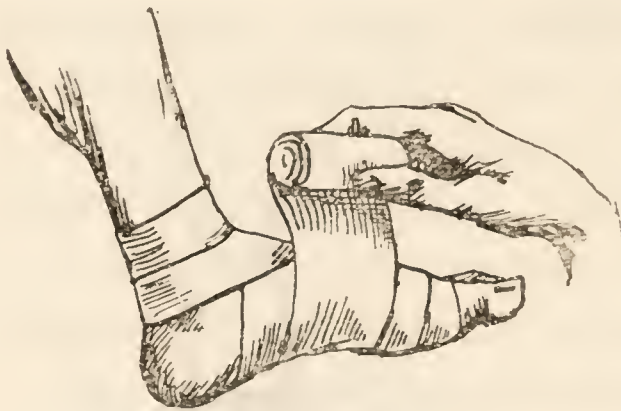


FIG. 10

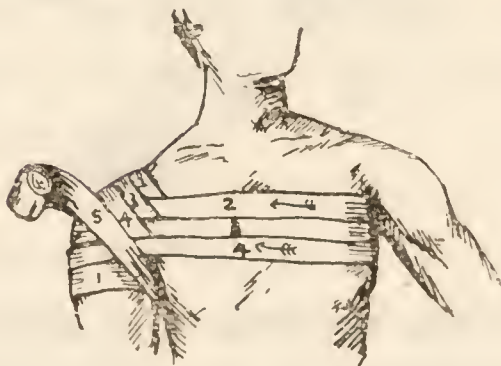


FIG. 11

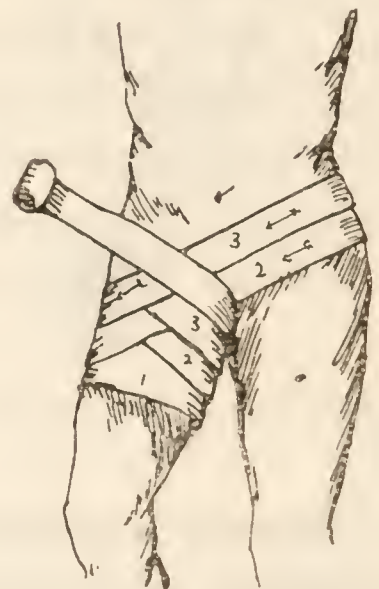


FIG. 12

round the foot again by crossing in front of the first turn, thus forming a regular figure of 8. The turns are repeated till the joint is completely covered. This form of bandaging is sometimes called the spica, as shown in figs. 11 and 12.

<sup>1</sup> Severe sprains of any of the joints may be treated by applying the figure-of-8 bandage, after the swelling has been reduced by warm fomentations.

SPICA FOR THE SHOULDER (fig. 11).—Take two or three turns round the upper part of the arm, then across the shoulder, round the back, and under the opposite arm. It then crosses the chest and front of the arm, is passed under the armpit and up over the shoulder again, but this time on a lower level than the last, so that the shoulder is gradually covered.

SPICA FOR THE GROIN (fig. 12).—Take a turn or two round the upper part of the thigh, then carry the bandage over the front of the thigh and round the hip, passing by the back round the opposite side. It is then carried from above downwards so as to cross the thigh again, but slightly higher up than the last turn. Repeat this till the hip is quite covered.

It is difficult to teach bandaging by description ; therefore, if possible, obtain some practical instruction at an ambulance class, and you will soon understand the principles and find them very useful.

## WOUNDS

A wounded person is most comfortably carried by being laid on a door or some firm support. Have sufficient help at hand to lift him steadily.

Wounds may be clean cut, ragged, pierced, poisoned, or caused by a gun-shot.

ANTISEPTIC SURGERY.—Wounds heal in two ways : First, by what is called the first intention—that is, quickly and without any discharge ; second, by granulation—that is, slowly, by suppuration or putrefaction, and the formation of pus or matter. Suppuration is caused by germs in the air finding their way into the wound, and thus making it putrefy. In order that a wound may heal quickly, it is necessary to exclude the air as much as possible, and to destroy the germs by substances known as antiseptics. The best antiseptic is Carbolic acid mixed with water or oil in the proper proportion. Other antiseptics contained in the medicine-chest are Crimson fluid, Iodoform, Friar's balsam, Boric ointment, Boric lint, Turpentine liniment, Salicylate of Soda, and double Cyanide gauze. These may all be used to destroy germs, and to cause wounds to heal quickly by the first intention, without the formation of matter. In dressing wounds, the hands should be first dipped in Carbolic acid and water (1 part to 40), the skin round the wound should be carefully washed with the same solution, and some of it should be applied, by means of a glass syringe, to the wound itself before the dressing is put on. If Carbolic acid is not at hand, Crimson fluid in the proportion of two tablespoonfuls to a pint of water may be used instead. Great care must be taken never to touch a wound with a dirty sponge. Aseptic sponges are now contained in the medicine-



chest, and, if these are not available, a little clean lint, absorbent cotton-wool, or a ball of oakum may be used instead. It must be remembered that the object of all these precautions is to exclude the poisonous germs always present in the air, and so to prevent an open wound from putrefying or festering.

INCISED OR CLEAN-CUT WOUNDS made with a sharp instrument are not dangerous, though they may bleed freely.

*Treatment.*—Stop all bleeding as directed (page 49). Cleanse the wound as directed in the above paragraph. Bring the cut edges close to each other and keep them together by strapping, or by a fine needle and thread passed through the sides and tied in a reef-knot. Over the cut surface place a pad of Boric lint, or a piece of lint soaked in Carbolic-acid lotion, Carbolic oil, or Friar's balsam, and above this a layer of absorbent cotton-wool or oakum; the whole to be kept in its place by a light bandage. If the wound be a clean-cut one and the patient in good health, it is probable that in two or three days the edges will have united and the wound healed. As a general rule it will be unnecessary to change the dressing for the first three days; and even then, if there be no discharge and the patient be free from pain and fever, the wound, if not healed, may be dressed again in the same way. Should, however, the skin look red and angry, with discharge, remove



the plaster or stitches, and apply Goulard lotion (Recipe No. 14) till all signs of inflammation are gone and then dress with lint soaked in Carbolic-acid lotion or oil till the wound is healed.

**RAGGED WOUNDS.**—These are generally caused by some blunt instrument, and are often the result of machinery accidents. In these cases the flesh is more or less torn, and the edges are ragged and unequal. They are accompanied by very little bleeding, owing to the pulling out of the blood-vessels, and very often there is not much pain. They generally heal by granulation with the formation of matter, the skin growing inwards from the edges. This process may take some considerable time, and an ugly scar is often left.

*Treatment.* — The wound should be carefully washed, as before directed, with Carbolic acid and water (1 to 40). It should then be dusted over with Iodoform, and a piece of Boric lint placed over it. This should be covered with some Cyanide gauze; and, outside all, layers of absorbent cotton-wool or oakum should be placed, and the whole kept in position by a light bandage. If these antiseptic dressings are not at hand, a piece of lint soaked in Friar's balsam or Carbolic oil may be used instead, covered, as before, with cotton-wool or oakum.<sup>1</sup> If the edges are ragged and bruised, it is useless to

<sup>1</sup> For small superficial wounds, whether incised or contused, this simple treatment will be all that is necessary.

bring them too closely together. The dressing should be changed as seldom as possible, and the after-treatment should be the same as directed for incised wounds. If it heals too slowly, a piece of lint covered with Boric-acid ointment may be applied; and if, on the other hand, it heals too quickly, and proud flesh forms, touch the elevated portion with a stick of Caustic.

PIERCED WOUNDS OR STABS.—These are much more dangerous than clean cuts, on account of their depth. Vital parts may be injured; the point of the weapon may break off and be left in the wound; and these wounds are very likely to be followed by inflammation, fever, and deep abscesses.

*Treatment.*—After washing out, as before, lint dipped in Carbolic lotion (Recipe No. 16) should be applied and kept constantly wet. With this simple treatment the wound will occasionally heal. If, however, it throbs and is hot and painful, matter is about to form. Hot poultices should then be applied and changed frequently. When the matter has been discharged, the wound should be covered with some antiseptic dressing, as before. If the patient be feverish, he must have a free purge, and then take the Fever mixture three times a day (Recipe No. 2).

POISONED WOUNDS.—The most simple are those caused by stings of bees, wasps, hornets, and other insects.

*Treatment.*—Apply rags wetted with Goulard lotion (Recipe No. 14). Look for the sting, and, if found, pull it out directly. Aromatic Spirit of Ammonia applied immediately will often have a good effect.

**SNAKE BITES.**—The bites of some snakes (as that of the cobra) are fatal to life, and others are highly dangerous. To prevent the diffusion of the poison, bind the limb round tightly above the wound with an elastic tube or strap, or a handkerchief made tight by means of a stick twisted round it. Then, if the lips be not sore, suck the wound and apply Caustic, or a hot iron, to it.

Half a teaspoonful of Aromatic Spirit of Ammonia given in a little water and administered frequently will counteract the depression, or brandy or other spirits may be given.

**GUN-SHOT WOUNDS.**—Bleeding from these wounds is the first evil to be remedied, and for this the same means are to be used as advised in the treatment under that heading (page 49).

The general treatment should, as a rule, be the same as for ragged wounds. No attempt should be made to remove the bullet, but the wound and the skin round it should be carefully washed with Carbolic lotion, and some antiseptic dressing applied.

(1) *Of the Head.*—If the ball enter the brain, immediate death almost always follows; but even



when the brain is injured and the skull broken, the patient will, under proper care, sometimes recover.

He must be kept perfectly quiet ; the bleeding from the scalp need not be stopped directly. The loss of some blood will do good, and generally, when he becomes faint, the bleeding will cease.

The after-treatment will be low diet, purgatives, and cold applied to the head. The diet must be *low* for a fortnight at least, and on no account must any wine, beer, or spirits be given.

(2) *Of the Chest.*—The lungs may be wounded. In this case air and frothy blood often issue from the wound. The outward bleeding may be trifling, and the inward bleeding great.

Low diet only is to be given, consisting of toast and water, cold water, or a little beef-tea ; and until the breathing is quite easy the patient must live on slop food only. Lint dipped in Carbolic oil or lotion should be placed over the wound, covered with cotton-wool or oakum, and a broad bandage must be passed tightly round the chest, so as to prevent as far as possible the movements of the ribs. He must lie on the wounded side.

(3) *Of the Belly.*—These are often fatal, as some vital part is generally wounded.

The patient must be placed on the wounded side, to allow the blood or other fluid to escape. Cold water, or toast and water *only*, should be taken, or he may suck ice or snow. An opium pill is to be



given every four hours, until the patient becomes drowsy. The pills must then be left off until the drowsiness ceases, and again repeated. *No opening medicine must on any account be given.* Lint dipped in Carbolic oil or lotion should be applied to the wound and covered with cotton-wool or oakum. If the bowels protrude, they must be gently returned, and the wound closed by one or two stitches. A broad bandage must be applied, so as to exercise a steady pressure over the whole surface.

WOUNDS OF JOINTS.—These are serious injuries ; and stiffness of the wounded parts, as well as severe pain and swelling, often follows. Wounds of the knee-joint are most common. The joint itself is known to be wounded when a clear yellowish fluid escapes, commonly called the joint oil.

*Treatment.*—A splint must be placed behind the injured joint, which should extend several inches above as well as below the joint, and be fitted with a pad. The wound must be closed at once by a piece of lint dipped in Carbolic oil or lotion, which may be allowed to dry on and remain, and the limb must be kept quiet for three or four weeks.

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## PUTTING-OUT OF JOINTS, OR DISLOCATIONS

The joints most likely to be put out at sea are :—

- (1) Shoulder.
- (2) Elbow.
- (3) Fingers.
- (4) Hip.
- (5) Ankle.

These accidents are easily repaired if taken in hand at once.

In all injuries of this kind, compare the sound limb with that which is hurt.

(1) SHOULDER.—There is flattening of the shoulder ; a hollow is seen where there should be a



FIG. 13

rounded surface ; the elbow sticks out from the side, and the patient often holds it with the other hand

to ease the pain ; there is often great pain and numbness of fingers, and if you put your hand into the man's armpit, a round hard lump is felt.

*Treatment.*—Put the patient on his back, take off your boot, press your heel well into the armpit, seize the patient's hand, pull steadily, and the bone will slip into the socket with a loud snap. If the man be very muscular, a clove-hitch may be taken round the arm just above the elbow to aid a steady pull (see fig. 13).

(2) ELBOW.—The arm is bent more or less at an angle, and cannot be straightened, and the bones are both felt and seen sticking out at the back part of the joint.

*Treatment.*—The patient having been seated, one man must take hold of the middle of the upper half of his arm, and another of his wrist. They must pull against each other, and a third should grasp the elbow with his two hands, his forefingers in front and his thumbs behind, with which he must press on the swelling downwards and forwards. After pulling some little time, bend the arm suddenly, and to the patient unexpectedly, and the bones will slip into their proper places.

Sometimes only one bone is out of place, which is thrown forwards, in which case the arm is slightly bent, but cannot be bent to a right angle or completely straightened, and the palm of the hand is turned towards the body.

*Treatment.*—Pull in the same way as before



indicated, and suddenly bend the elbow. The arm must be kept quiet in a sling for four or five days.

(3) FINGERS.—This injury is easily detected by the sticking out of the ends of the bones. It is repaired by fixing the displaced bone by a clove-hitch, and pulling steadily until the ends slip into place.

This accident must be repaired at once, or great difficulty will afterwards be found in its management.

(4) HIP.—The injured limb is from  $1\frac{1}{2}$  to  $2\frac{1}{2}$  inches shorter than the other, and the toe points inwards. The foot cannot be turned out, and any attempt to do so gives great pain; pain is also experienced in separating the legs.

*Treatment.*—Pulleys are often required to repair this accident. The patient must be laid on his back; the hip-bones fixed by a stout piece of canvas passed between his legs and fastened to a staple in the deck, your heel pushed well up into the crutch, and a strong steady pull made by grasping the ankle with both hands. The repair may be assisted by placing a jack towel round the middle of the patient's thigh and round the neck of anyone who is helping you. Your assistant will then, by pulling gently, lift the head of the bone over the edge of the socket into its place. The bone will go in with a loud snap.

NOTE.—This accident is often difficult to discover, and you must therefore observe great caution in practising the above plan of treatment. If unsuccessful, do not persevere, but nurse the patient carefully until you arrive in port.

(5) ANKLE.—The lower end of the bone can be seen as a hard swelling, and felt against the skin on the inner side of the ankle ; there is a hollow on the outer side, and the sole of the foot is turned upwards and outwards.

*Treatment.*—Pull steadily until the foot is straight. A splint must then be placed on the inner side of the leg, reaching above the knee and below the ankle.

## BROKEN BONES, OR FRACTURES

These are of two classes, simple and compound.

A simple fracture is a broken bone with no wound.

A fracture is said to be compound when a wound leads from the skin to the broken bone.

BROKEN LOWER JAW.—Usually caused by a direct blow.

*Symptoms.*—On taking hold of the jaw with two hands, the broken ends can be felt grating against each other, and the regular line of the teeth is destroyed. The patient dribbles from the mouth, and speaks in a mumbling manner.

*Treatment.*—A piece of millboard, gutta-percha, or coarse tarred felt, shaped as fig. 14, is to be soaked

in hot water, wrapped quickly in a piece of rag, the centre part placed under the chin, and the ends

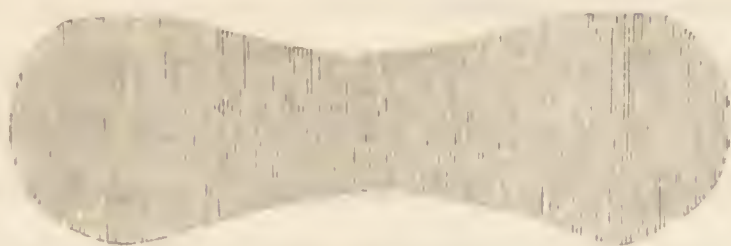


FIG. 14

moulded, whilst soft, to the sides of the lower jaw. Each end of the splint should touch the lowest part

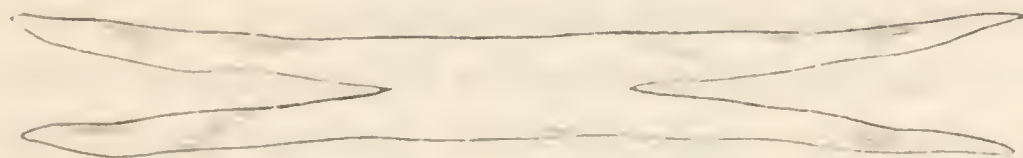


FIG. 15

of the ear, and, before soaking, it must be cut accordingly. It must be kept in its place by a four-tailed



FIG. 16

bandage (fig. 15), the two front tails being tied over the back and highest part of the head, in this



way (fig. 16), and the hinder ones in front of them.<sup>1</sup> The patient must be fed on slop diet for a fortnight after the accident.

**BROKEN RIBS.**—A sharp stabbing pain on taking breath, the patient often complaining that his ribs grate together; he will sometimes spit blood. On placing your hand over the painful spot, the ends of the broken bone may often be felt.

*Treatment.*—A flannel roller, 6 inches wide and 7 yards long, must be tightly wound round the chest as high as the arms will permit.

**GENERAL INDICATIONS OF BROKEN LIMBS.**—Pain, inability to move the limb, and shortening, with grating of the broken ends.

*General Treatment.*—Gently bring the ends of the bone together and get the limb to its proper length and shape, then keep it fixed in that position by means of splints. If there is any shortening or deformity, one person must hold the broken limb above the seat of injury, whilst another must pull at the lower portion of it to extend the limb away from the trunk. No force must be used, or the simple fracture may be converted into a compound one.

A set of arm splints is provided in the medicine-chest, and splints for the legs can easily be made by the carpenter. The splints may be fastened to the

<sup>1</sup> A four-tailed bandage (fig. 15) is made by taking an ordinary roller bandage about 2 feet long and tearing each end, leaving a piece of about 4 inches in the middle undivided.

limb either by the roller bandage or the narrow-fold triangular bandage, one above and the other below the seat of injury, or pocket-handkerchiefs will serve the same purpose. It is best not to apply a bandage immediately over the seat of injury. All wooden splints must be well padded with oakum, cotton-wool, or some soft material to protect the skin. Sometimes pieces of leather or cardboard, well softened in water, are moulded to the limb and allowed to set. These are especially useful for the ankle, shoulder, elbow, wrist, and jaw. The plaster-of-Paris bandage is described on page 163. Temporary splints may be made from firewood, match-boarding, cigar-boxes, book-covers, and even several folds of brown paper will serve on an emergency. In fractures of the leg the sound limb may be utilised as a temporary splint by tying it to the broken one.

**BROKEN COLLAR-BONE.**—The end of the bone is seen sticking up, the shoulder is flattened, and the patient cannot lift his arm to head.

*Treatment.*—A bandage is to be applied round the shoulders thus (fig. 17), a large pad of cotton must be put in the armpit, and the elbow pressed close to the side and supported in a sling.

**BROKEN UPPER ARM** (between shoulder-joint and elbow-joint).—The patient cannot move his arm, and there is deformity, with grating of the ends of the bone.

*Treatment.*—Bend the elbow, put on four splints

—one inside, one outside, one in front, and one behind—support the arm in a small arm-sling, and let the elbow be allowed to drop. Instead of splints a plaster-of-Paris bandage may be applied as directed, page 163, and worn for four or five weeks.

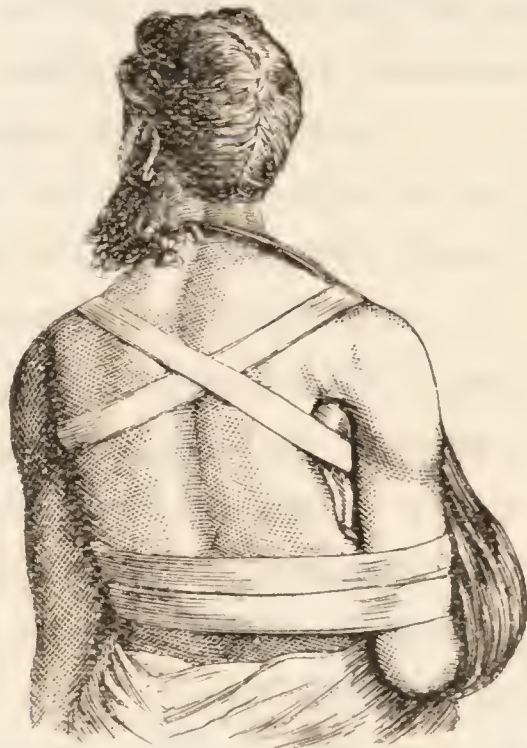


FIG. 17

BROKEN LOWER ARM (between elbow-joint and wrist-joint).—All ordinary signs of a broken bone.

*Treatment.*—Bend the elbow, apply one splint on the inside of the arm reaching from the elbow to the tips of the fingers, and one on the outside, reaching from the elbow to the back of the hand. The splints must be well padded and the arm supported in a large arm-sling.

BROKEN WRIST.—This is often caused by a fall on the palm of the hand, and it is generally the lower



part of the radius, or outer bone, that is broken. There are the ordinary signs of fracture, and in addition there is a swelling at the back of the wrist, and a hollow in front, and the hand is pulled towards the radial or thumb side. It often leaves considerable deformity.

*Treatment.*—Get a splint made shaped like a pistol (see fig. 18). This should be thickly padded opposite to the fracture and applied to the outer side of the arm, the hand being brought well down to the

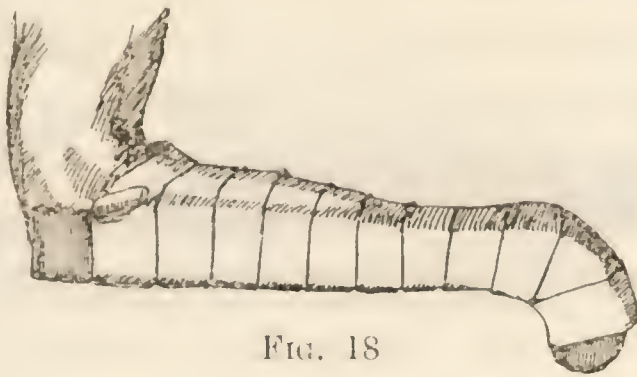


FIG. 18

little-finger side, and bandaged to the bent part of the splint. Another short splint reaching from the bend of the elbow to the wrist should be placed on the inside, after being well padded. The arm must be supported in a large arm-sling.

**BROKEN THIGH.**—Shortening of the limb, turning out of the foot, with swelling of the foot, and grating of the broken ends of bone are observable.

*Treatment.*—A well-padded long splint, extending from the armpit to the sole of the foot, is to be placed on the outside of the limb, the limb having

been first straightened by steady pulling ; the splint must be fastened to the leg, thigh, and waist of the patient by leather straps, or by ordinary bandages (fig. 19). It must be kept on at least six weeks.

**BROKEN LEG.**—The same symptoms exist as in other ordinary fractures, viz. grating of bones, pain, and swelling.

*Treatment.*—A splint must be placed on each side of the leg, reaching from above the knee to below the ankle, and fastened with bandages. The

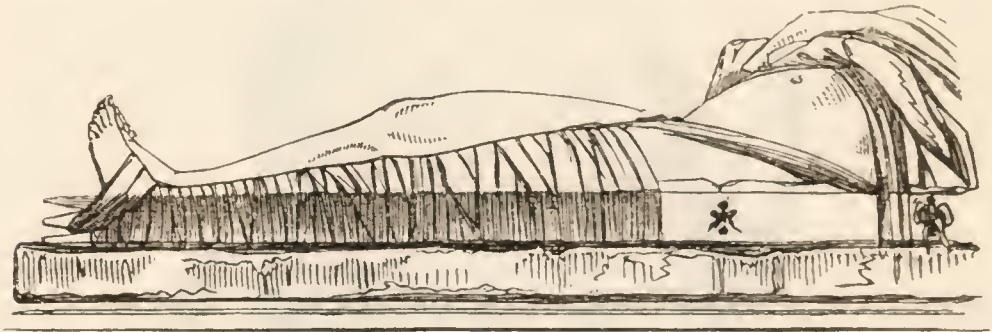


FIG. 19

patient should generally be kept on his back, but the broken leg may, when carefully splintered and bandaged, be now and then laid on its side.

**BROKEN KNEE-CAP** is caused either by a blow, or by a fall on taking a false step. There is generally a gap left between the broken fragments, and it is difficult to get them together again.

*Treatment.*—Apply a back splint from the buttock to the heel, and raise the heel on a pillow. To draw down the upper fragment, a broad strip of plaster may be placed over it and carried diagonally down-

wards and forwards on each side, the two ends meeting behind the splint. To keep the lower fragment in position a similar piece of strapping may be applied in the reverse direction. The two pieces of strapping will thus cross each other in front. A figure-of-8 bandage may be applied above and below the knee to assist the strapping. The splint must be kept on for two months.

### COMPOUND BROKEN BONES, OR FRACTURES

*Treatment.*—If the bone sticks out of the wound, it must be put back, which can generally be done by steady pulling; but if the bone be jammed, it will be necessary to enlarge the wound with a lancet, and a piece of Boric lint dipped in the blood should then be applied over the wound, and allowed to dry on. Two side splints, one on either side of the limb, must be applied, and the limb kept cool by a wet rag.

In the treatment of all fractures, rest is of very great importance, and the limb, when once set, should be disturbed as little as possible, unless the splints have shifted. All patients with broken bones should, if possible, be put into a sling cot, and *all splints should be kept on for five weeks.*

N.B.—In simple fractures of the leg or arm a plaster-of-Paris bandage may be substituted for the ordinary splints after the first fortnight. (See page 163.)



## BRUISES

Bruises are too well known to need description, and need no treatment unless very severe.

*Treatment.*—Rags wetted with Goulard lotion (Recipe No. 14) should be applied, or hot fomentations used if cold is disagreeable.

## CARRYING PATIENTS

In accidents where the patient is unable to walk, he may be carried by any of the following methods :—



FIG. 20

(1) The four-handed seat (fig. 20) is made by two bearers, each grasping his own forearm and that of his fellow about its middle. It is called by schoolboys the sedan-

chair. The patient sits on the hands and places one arm round the neck of each bearer.

(2) The two-handed seat (fig. 21) is made by two persons interlacing their hands in front, their other hands being placed on each other's shoulder, so as to support the patient behind; he is carried in the semi-recumbent position.

(3) The sitting position, in which the opposite hands of the bearers are interlaced under the thighs and behind the loins the patient putting his arms

round their necks. This is rather a tiring performance.

(4) Turn the sleeves of a coat inside out and pass two poles through them, then button the coat; this makes a good stretcher; or two coats may be treated in a similar way to make a larger stretcher.



FIG. 21

(5) A large piece of canvas or tarpaulin may be spread out, and two stout poles rolled up in the sides. A pair of oars will answer the same purpose as the poles.

INVALID'S COT.—In an Appendix to the first edition of this work there was described an ingenious and very convenient contrivance for removing the wounded on board ship, as arranged by Medical Inspector A. C. Gorgas. It consists essentially of a common cot, which, for this purpose, is made considerably smaller than usual; two pieces of board are

joined at a right angle, to make inclined planes under the knees ; and there is a pillow and a band at the

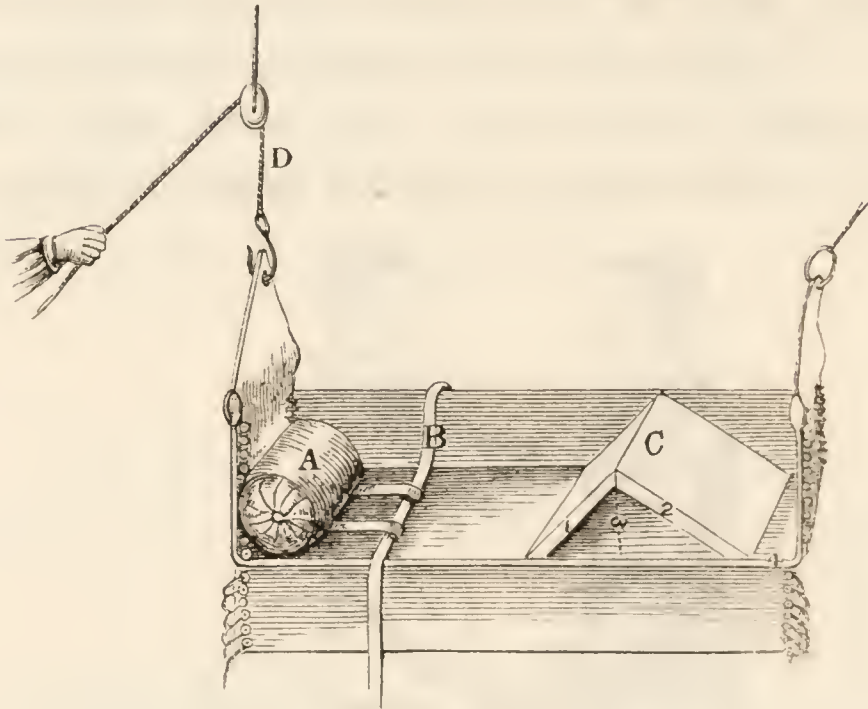


FIG. 22

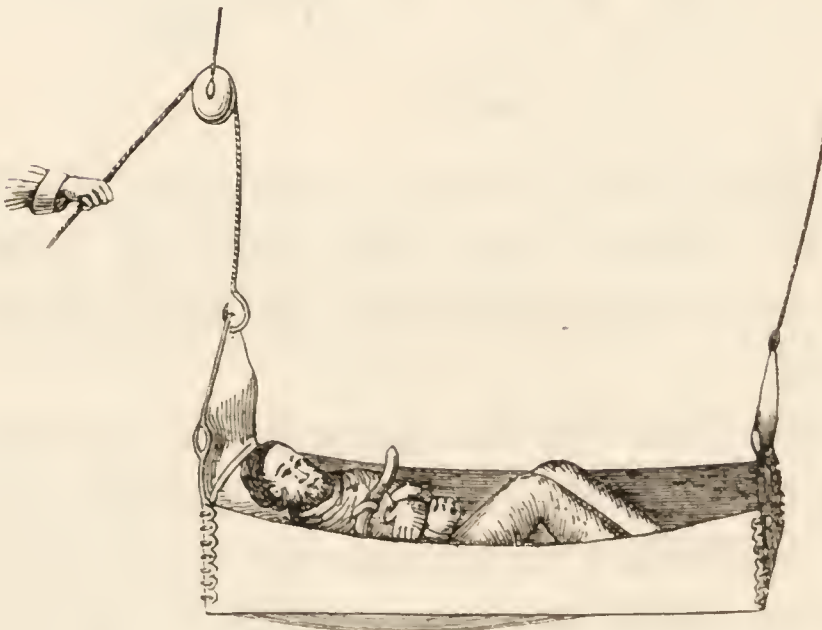


FIG. 23

upper part to hold the patient securely in position (figs. 22 and 23). When it is necessary to lower the



foot of the cot, as in descending a hatchway, the inclined planes hold the lower part of the body securely and comfortably. This ambulance cot, suspended by the cords at the ends, makes a very good invalid's chair.

‘A stout arm-chair is sometimes securely slung, so that, by means of a whip on the mainyard, a wounded man, an invalid, or even a lady or child, securely tied in the machine by shawls, flags, cords, &c., may be safely hoisted from or lowered to a boat, even when the weather is too rough to allow the boat to come very close to the side of the ship. This is rather better than the cot, unless the patient is too weak to sit up.’—*Extracted from ‘Naval Hygiene,’ by kind permission of the author, Joseph Wilson, M.D., Medical Director U.S. Navy.*

### BLEEDING

When bleeding from a wound occurs, you must act promptly and with decision. The blood that flows from an artery is of a bright red colour, and that from a vein bluish and dark. A firm pad of lint must be placed over the bleeding spot, pressed and kept in its place by plaster, and the part must be kept cold by ice, snow, or a stream of cold water. If bleeding still goes on, is bright red and jerking, and the seat of injury is in the arm or leg, pressure must be made by the fingers and thumb, as in fig. 24, above the wound, over the principal artery, which

can be usually felt beating on the inside of limb. A bandage and pad must then be fixed as in fig. 25, placed on the spot where the artery feels to be nearest the surface, and tightened until the bleeding ceases. If a vein burst, or be cut, and if the injury be in the leg, the patient must at once lie down.

Bleeding from a vein is always easily stopped by the pressure of a pad. No pressure *above* the wound

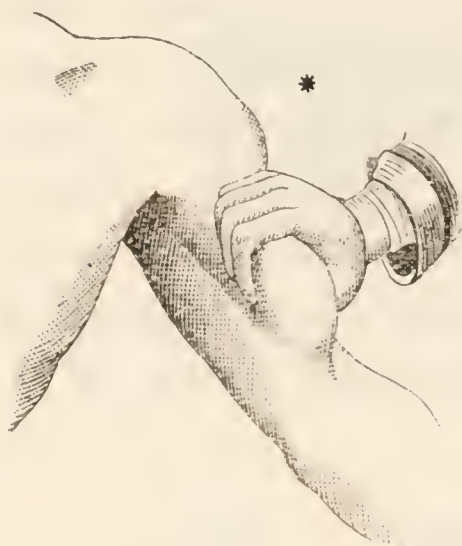


FIG. 24

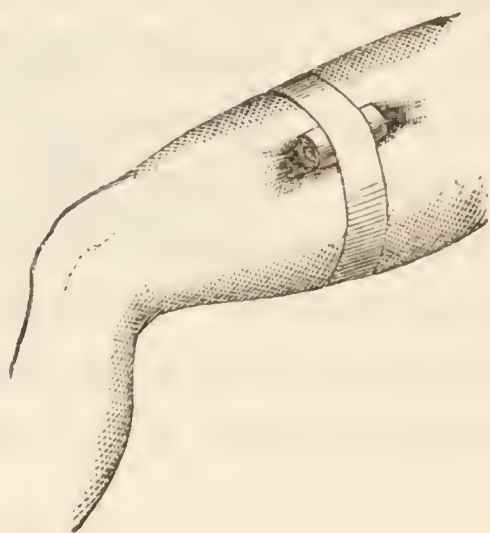


FIG. 25

should be made in this case, as it will greatly increase the bleeding.

*Directions for Making a Pad.*—It should be about 1 inch thick, and made of several layers of lint or rag, of various sizes. The smallest piece is to be placed over the wound, from which the blood has been carefully wiped, and the rest in order of size. A piece of cork wrapped in lint is to be put

\* Extract from 'Rules' published by Dr. Packard, of Philadelphia.

on the top of the pad, and the whole arrangement fastened by a piece of plaster or a bandage.

If the wound be in the arm or leg, the limb must be raised to assist the return of blood.

A still simpler method of stopping bleeding from an artery is to tie an elastic band or tube tightly round the limb above the wound. Professor Esmarch has invented one having

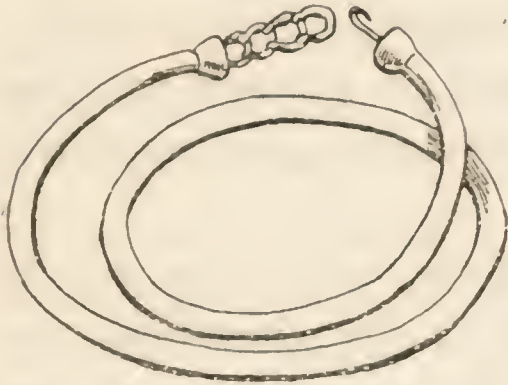


FIG. 26



FIG. 27

a hook at each end. It is called Esmarch's tourniquet (fig. 26), and is now included in the medicine-chest. To apply it, you simply stretch the tube to its full



FIG. 28

length, and wind it round and round the limb, one end in one direction and one in the other, and then fasten the hooks to each other (see fig. 27). It is



very easily applied, and requires no knowledge of the situation of the arteries. An indiarubber brace will answer the same purpose.

A simple method of applying pressure to an artery is to tie a knot in the middle of a folded triangular bandage (see fig. 28). The knot should be placed on the artery, and the ends tied round the limb to keep it in its place. If the pressure be not sufficient, a stick, or the handle of a knife, may be pushed under the bandage and twisted round till the bleeding stops. Or, instead of tying a knot, a narrow folded bandage may have a special pad fixed in its folds and placed on the artery, the ends being tied as before.

Bleeding from the fore-arm may sometimes be stopped by placing a pad in the elbow-joint, and bandaging the fore-arm tightly to the upper arm, thus compressing the artery at the elbow ; or by applying pressure, as directed above, to the artery in the arm, which runs in the direction of the coat-sleeve.

Bleeding from the armpit may be arrested by placing a pad in the armpit and binding the arm tightly to the body.

Bleeding from the hand may be controlled by tightly bandaging the fingers over a pad placed in the palm.

Bleeding from the foot or leg may be stopped by placing a pad behind the knee, and bending back and tying the leg to the thigh.

In bleeding above the knee, the artery must be compressed, in the leg, by means of an Esmarch's tourniquet, or triangular bandage, applied as directed, above the wound.

In bleeding about the head a pad should be placed on the wound and secured by a bandage, so as to compress the artery against the skull.

If bleeding persist after direct pressure on the wound and pressure above the wound have been tried, the only plan left is to tie the arteries themselves. To do this, after washing out the wound, relax the tourniquet, and when the blood can be seen spurting out from a wounded vessel, seize the vessel with a pair of tweezers or forceps, and, after drawing it out slightly from the surface, tie round it a piece of silk in a reef-knot, leaving one end hanging out at the extremity of the wound. This operation should, however, be attempted by a non-professional person only when all other means have been fairly tried, and have failed.

## GATHERING, OR ABSCESS

This is generally caused by a blow or strain, and is a hot and painful swelling, at first hard, but eventually bursting and discharging matter.

*Treatment.*—A linseed-meal poultice, which must be changed twice a day.

When the swelling softens, and the skin over it

is red and very thin, time will be gained and suffering saved by opening it with an abscess knife. Continue the poultice after the abscess is opened, and afterwards apply a piece of lint smeared with vaseline. When the skin is very thick, as in the palm of the hand and over the fingers, it will separate, and should be cut away with a pair of scissors.

## BURNS AND SCALDS

*Treatment.*—In slight cases a thick layer of flour should be dusted over the part, so as to form a crust, beneath which, if not very deep, the burn will heal.

In a severe case, pieces of rag should be dipped in oil, or, better, equal parts of oil and lime-water (Carron oil), placed on the burn, and covered with cotton-wool; the dressings must be changed as seldom as possible, but sufficiently often to ensure cleanliness, and must then be gently washed off with Carbolic-acid lotion (Recipe No. 16). The patient's strength must be supported by good food and a daily allowance of grog, and the pain relieved by a draught at night containing 30 drops of laudanum.

Burns of the face are best treated by painting on olive oil with a soft brush or with a feather.

If large blisters form, they should be pricked with a needle and covered with flour and cotton-wool. The wrinkled skin must not be cut off.



## SHOCK, OR COLLAPSE

After a severe injury the patient is liable to shock. This is a state of nervous depression in which he may be unable to move; there is great pallor of the face, the temperature is lowered, breathing is feeble and gasping, and the pulse almost imperceptible. It often follows a gun-shot wound or a severe burn.

*Treatment.*—Give stimulants, as whisky or brandy, and if the patient be unable to swallow, give an enema of beef tea and brandy or port wine. Teaspoonful doses of Aromatic Spirit of Ammonia are useful. He should be placed between warm blankets, and hot-water bottles applied to the feet. When reaction sets in, there may be feverish symptoms; therefore do not push the stimulants too far, but administer them cautiously.

## INJURIES TO THE HEAD

Common among sailors, and often of a serious nature.

Wounds of the scalp, even if small, may be followed by very awkward consequences; and, indeed, no injury of the head, however slight, should be neglected.

These wounds may be clean-cut or jagged, and in any case bleed freely.

*Treatment.*—Shave the part, clean the wound, and, if large, bring the edges together by one or two stitches. A pad of Boric lint kept in its place by plaster is a sufficient covering, and the bleeding is always easily stopped by pressure with fingers or bandage.

In all injuries of this kind the patient must be kept on *low* diet, and his bowels must be freely opened. If he complains of headache or is drowsy, cut his hair short, and put rags wetted with cold water on his scalp. *No wine, beer, or spirits must on any account be given.*

CONCUSSION OF THE BRAIN.—This is a consequence of severe blows on the head or of falls from aloft, and the scalp is sometimes wounded.

The patient in a slight case is faint, feels sick, and sometimes vomits.

If the injury be severe, he loses his senses ; his body is cold ; he lies as if in a deep sleep, but can be roused by shouting some familiar question in his ear, when he will answer, and immediately go off to sleep again. This drowsiness may last from one to forty-eight hours.

*Treatment.*—Keep him quiet ; give nothing by the mouth, or you may choke him ; wrap him in a warm blanket, and apply warmth to his feet.

BROKEN SKULL AND PRESSURE ON THE BRAIN.—Generally a fatal accident.

The patient is insensible, breathes as if smoking

a pipe, and sometimes bleeds at the ear and nose.

*Treatment.*—Apply cold to the head and warmth to the feet. Nothing else can be done.

## FROST BITE

This accident occurs most commonly to coloured seamen, and affects the fingers and toes. Urge your men, when the ship is in cold latitudes, to come to you as soon as their extremities become red or at all shrunken.

*Treatment.*—Rub the parts affected with snow or ice, and afterwards apply rags wetted with cold water. Do not bring the patient into a warm cabin or near a fire, or the limb may be destroyed.

## HANGING

Cut the patient down, make everything clear about the neck, and dash cold water on the face and chest. If necessary, employ directions given in the article on Drowning (see below).

## DROWNING

Turn the body gently on the face with one of the arms under the forehead, in order that any water may escape from the mouth. Take off all clothes at once, wipe the body dry, and cleanse the mouth



and nostrils with a handkerchief. Put hot bottles to the armpits, between the calves of the legs, and to the feet. To excite breathing, apply snuff or Spirit of Hartshorn to the nose, or tickle the throat with a feather. Rub the chest and face briskly with hot cloths, and dash hot and cold water alternately on them, or beat the chest with a wet towel.

Should these efforts not prove successful in the course of from two to five minutes, proceed to imitate breathing by DR. SYLVESTER'S method, as follows :—

Place the patient on the back on a flat surface, inclined a little upwards from the feet ; raise and support the head and shoulders on a small firm cushion or folded article of dress placed under the shoulder-blades.

Draw forward the patient's tongue, and keep it projecting beyond the lips ; an elastic band over the tongue and under the chin will answer this purpose, or a piece of string or tape may be tied round them, or, by raising the lower jaw, the teeth may be made to retain the tongue in that position. Remove all tight clothing from about the neck and chest, especially the braces.

*To Imitate the Movements of Breathing.*—Standing at the patient's head, grasp the arms just above the elbows, and draw the arms gently and steadily upwards above the head, and *keep them stretched* upwards for two seconds. (*By this means air is*

*drawn into the lungs.)* Then turn down the patient's arms, and press them gently and firmly for two



FIG. 29



FIG. 30

The foregoing two Illustrations show the position of the Body during the employment of Dr. Sylvester's Method of inducing Respiration.



seconds against the sides of the chest. (*By this means air is pressed out of the lungs.*)

Repeat these measures alternately, deliberately, and perseveringly, about fifteen times in a minute, until a spontaneous effort to respire is perceived, immediately upon which cease to imitate the movements of breathing, and proceed to *induce circulation and warmth*.

The above treatment should be persevered in for some hours, as it is an erroneous opinion that persons are irrecoverable because life does not soon make its appearance, persons having been restored after persevering for many hours.

*Cautions.* — Prevent unnecessary crowding of persons round the body.

Avoid rough usage, and do not allow the body to remain on the back unless the tongue is secured.

Under no circumstances hold the body up by the feet.

When consciousness returns, give the patient light fluid food, with a little wine, and let him rest completely for at least twenty-four hours, or he may have a severe fever, and will then be confined to his berth for some weeks.



## CHOKING, OR SUFFOCATION

Commonly caused by breathing foul air of any kind.

Bring the patient at once into fresh air, and treat him by the directions given under the heads of Hanging and Drowning.

If the air in a ship's hold or any other place is suspected of being foul, let down a lighted candle. If the candle burns brightly, it is safe to descend ; if it goes out, or burns dimly, it is dangerous till the place has been well ventilated.

If suffocation is caused by pieces of food or a bone sticking in the throat, take hold of the nose with the left hand and keep the mouth open ; then insert the first finger and thumb of the right over the tongue deep down into the mouth and try to remove the obstruction. If this does not succeed, press the chest and stomach against a table and give two or three smart blows on the back. This may remove it.

## POISONS

TAKE care to find out what the patient has swallowed, as, in cases of poisoning, an improper remedy is far worse than none at all.

A simple method of exciting vomiting in all cases of poisoning (except when caused by a corrosive acid) is as follows :—

Get a piece of gutta-percha tubing  $\frac{1}{2}$  inch in diameter ; make the patient swallow 20 to 25 inches of it ; raise the free end above his head, and by means of a funnel pour down a pint or so of water ; then lower the free end below the level of the stomach, and the stomach will empty itself. Repeat this process several times. This remedy is very effectual, and can be applied with the greatest ease.

## ACIDS

AS SPIRIT OF SALT, AQUAFORTIS, SOLUTION OF  
CHLORIDE OF ZINC, &c.

Give Bicarbonate of Soda in water, chalk or whiting in water, or, if neither of these be at hand, *soap suds*.

Give 1 oz. of Castor oil afterwards to open the bowels, and repeat it the next day.

NOTE. *Carbolic Acid*.—Give any kind of oil.

## POTASHES, HARTSHORN, AND AMMONIA

Give vinegar and water. After-treatment the same as for acids.

## LEAD

Give Epsom salts in double doses, which should be continued in doses sufficiently strong to keep the bowels freely open three days after all active symptoms of poisoning have passed away.

## OPIUM, OR LAUDANUM

There is no antidote for this poison.

If the patient will swallow anything, give him 30 grains of Sulphate of Zinc in a glass of water, make him drink large quantities of water, and tickle his throat with a feather, to make him vomit.

He must be kept awake at any cost, by splashing with cold water, and must be walked about until all symptoms of profound drowsiness have vanished. Give him strong coffee often, but in small quantities, keep him warm, and when he is thoroughly awakened let him have a short sleep of about thirty or forty



minutes, then get the bowels open with a full dose ( $1\frac{1}{2}$  oz.) of Castor oil, and keep up warmth of body, if necessary, by rubbing and hot bottles.

### ARSENIC

If no vomiting has occurred, give the man 30 grains of Sulphate of Zinc in a glass of water, or, if this be not close at hand, a large draught of very greasy water, or of warm sea water, and repeat it until he vomits. If this does not succeed quickly, the patient will probably die.

### POISONOUS FOOD

Stale fish or putrid meat may cause poisoning. Give your patient 30 grains of Sulphate of Zinc in a large glass of water to make him vomit. After this give 1 oz. of Castor oil with 10 drops of Laudanum, followed by small and oft-repeated doses of brandy if he is faint and exhausted.

### EXCESSIVE DRUNKENNESS

Give the man 30 grains of Sulphate of Zinc in a glass of beer, or any other liquid, to make him vomit. Get everything clear about his neck and waist, rest his head, well raised, on a wet swab, and put him in the open air, properly protected from cold.

## TAKE NOTICE

In all cases of poisoning, your remedies should be found at once, and given speedily, with little or no special care as to the quantity administered, and you need not be surprised if the patient is unfit for work for several days after the occurrence.

If you have no Sulphate of Zinc to administer as an emetic, you may give instead common salt or mustard (one half to one tablespoonful of either in a tumblerful of water), or Ipecacuanha (one teaspoonful in a wineglassful of water).

## MEDICAL DISEASES

The term 'slop diet' is used to signify any kind of food in a fluid state, as beef-tea, milk, arrowroot, &c.

### THE CLINICAL THERMOMETER

THE Clinical Thermometer is now recognised as an indispensable adjunct by all those who are ever called upon to treat disease, and it is included in the medicine-chest. The method of using it may be very easily acquired, and the indications it furnishes are most valuable.

It is something like an ordinary garden thermometer, and the diagram on page 67 shows the way it is marked. It is generally graduated from  $95^{\circ}$  to  $112^{\circ}$ . Each of the big lines indicates a degree, and every fifth degree is numbered. Each degree is divided by the small lines into fifths, but the fractions are expressed in decimals or tenths of a degree; thus  $\frac{1}{5}$  we write as  $\cdot 2$  and  $\frac{2}{5}$  as  $\cdot 4$ . It will be noticed that a small arrow is placed at  $98\cdot 4^{\circ}$ ; this shows the ordinary temperature of the body in health, and it may be taken as a general rule that if it does not vary more than a degree either way, there is not much the matter with the patient.



The thermometer should always be self-registering, so that you can read it off at your leisure. At the top of the ordinary column of mercury there is a little piece detached, to serve as an index, and this remains at the temperature indicated till it is shaken down.

Before taking a temperature, hold the thermometer in your right hand, and tap that hand against the other till you shake it down to about  $96^{\circ}$ . The best place to take the temperature is under the tongue. The thermometer should be placed under the tongue, as far back as it will go; the mouth should be closed, and it should remain there for about three minutes, when it may be taken out and the temperature read off.

It is sometimes taken in the armpit; but this is not so convenient, and takes a longer time—about five minutes instead of three. It is advisable to take the temperature about twice a day, morning and evening, between six and seven o'clock; and it is a good plan to record it on a chart, and not trust to the memory. Any elevation of temperature above  $99.5^{\circ}$  must be looked upon with suspicion. A temperature between  $100^{\circ}$  and  $102^{\circ}$  indicates



moderate fever; above  $103^{\circ}$  serious fever. In most fevers the temperature does not rise above  $106^{\circ}$ , and if it should reach  $108^{\circ}$  a fatal termination may be looked for. Loss of blood from any cause will reduce the temperature in proportion to the amount lost; it may fall to  $97^{\circ}$ , or even  $96^{\circ}$ . The latter would indicate serious weakness.

As thermometers are sometimes bought on the Continent, and these are graduated on the Centigrade scale, it will be useful to give a table comparing the two systems:—

	Fahrenheit	Centigrade	
	110	43·33	
	109	42·8	
(as a rule) Fatal	> 108	42·2	< Fatal (as a rule)
Dangerous fever	> { 107	41·7	< Dangerous fever
	106	41·1	
Serious fever	105	40·6	< Serious fever
	> { 104	40	
	103	39·4	
Moderate fever	102	38·9	< Moderate fever
	> { 101	38·3	
	100	37·8	
Healthy temperature	> 99	37·2	< Healthy temperature
	98	36·7	
Weakness	> { 97	36·1	< Weakness
	96	35·6	
	95	35	

## THE PULSE

The pulse is usually felt in the wrist by pressing the first two fingers about 1 inch above the upper joint of the thumb. As the pulse varies very much

in health, it is not such a valuable indication of disease as the thermometer. In an adult the pulse averages from sixty-five to seventy-five beats per minute in health.

A slow and strong pulse is suggestive of pressure on the brain.

A quick and strong pulse is suggestive of inflammation.

A quick and weak pulse is suggestive of fever or weakness.

A slow and weak pulse is suggestive of shock, depression, or jaundice.

An irregular or intermittent pulse is suggestive of either heart disease or indigestion.

In fever the pulse is increased by about ten beats per minute for each rise of  $1^{\circ}$  of temperature.

## FEVER

By fever is here meant, not Ague, but a continued state of hot skin, furred or dry tongue, with very loose or very confined bowels, high temperature, and quick pulse. The incubation period is the time between when the disease was caught and the first appearance of the symptoms.

There are many varieties of fever, but the three following may be distinguished without much difficulty ; they are known as continued fevers :—

(1) SIMPLE FEVER.—This is a very mild form, and is caused by exposure to cold and wet, by sudden



changes of temperature, or by some error of diet. Symptoms are heat of skin, quick pulse, loss of appetite, pains in the limbs, thirst, and confined bowels. This state lasts from one to six days, and is often terminated by a profuse sweating, which leaves the patient weak, but otherwise well. It is not infectious.

*Treatment.*—Give your patient a Black draught and the Fever mixture (Recipe No. 2) three times a day, with slop diet. When the fever has left him, give the Quinine mixture (Recipe No. 9) three times a day for a week.

(2) TYPHOID FEVER—sometimes called Enteric or Gastric fever—is generally caused by impure water or bad drainage. It commences much the same as Simple fever, but there is more depression and the bowels are generally loose. About the seventh day a few small rose-coloured spots will appear on the chest and belly; these fade away in a few days, and a fresh crop comes out. These spots appear for about three weeks. The tongue is moist and furred, but after a time becomes dry, red, and cracked, and the teeth are often covered with brown matter called sordes; there is great thirst. The diarrhoea generally increases during the second week, and the stools are fluid, of a yellowish colour, and smell very offensive. In some cases there is blood in the stools. The belly is painful and often becomes tight like a drum. These symptoms continue during the third week,

and the patient gets more exhausted, and often lies in a state of stupor, muttering to himself and picking at the bed-clothes. The improvement is slow, and often does not commence till the fourth week, when the motions become firmer, the tongue moister, and the skin cooler. By the thirtieth day, in most cases, the fever is over, but the patient is left in a very weak state, requiring great care. Sometimes death is caused by ulcers which burst in the bowels. The thermometer is a valuable guide to the diagnosis of Typhoid fever. During the first week the temperature gradually rises, the evening temperature being about  $1^{\circ}$  higher than the morning. During the second week the evening temperature remains at from  $102^{\circ}$  to  $105^{\circ}$ , according to the severity of the attack, the morning temperature being  $1^{\circ}$  to  $1\frac{1}{2}^{\circ}$  lower. About the middle of the third week the temperature will begin to fall, the drop being greatest in the morning, until at the end of the fourth week in uncomplicated cases it should go back to its normal limit. The fourth week is generally considered the most critical. The incubation period is from seven to twenty-one days, and there is danger of infection as long as any diarrhœa remains.

*Treatment.*—Remember, this fever will always last three weeks and cannot be cut short. Be careful to give no solid food, or you will kill the patient. If you can obtain it, there is nothing better than

milk—a pint and a half in the twenty-four hours, or condensed milk may be substituted in the proportion of about 2 oz. to 1 pint of water. This, with a pint and a half of beef-tea, will be a very suitable diet. If you have no milk, give any slop diet you can obtain. Give plenty of barley-water, toast and water, or cold weak tea to relieve the thirst. Stimulants are not generally necessary at first, but when the pulse begins to fail, and the tongue gets dry and hard, give wine or brandy at the rate of 4 to 8 oz. in the twenty-four hours. If the stools are more than three or four in the day, give an Opium pill once or twice a day as may be required. If the looseness is very bad (say, from twelve to twenty stools in twenty-four hours), give the Diarrhoea mixture (Recipe No. 3) every four hours. Should there be any blood in the motions, give 20 drops of Tincture of Steel in a little water every two hours till it stops, or Witch Hazel may be given (Recipe No. 10) in the same manner. If there is much pain or distension of the bowels, put a large Turpentine fomentation (Recipe No. 19) over the belly, keep it there for thirty minutes, and repeat it every morning as often as necessary. An Opium pill may be given at night when there is much restlessness. When the fever is over, give the Quinine mixture (Recipe No. 9) three times a day. No solid food must be allowed for six weeks from the commencement of the attack. Good nursing is of



more value than medicine in this disease. Typhoid fever is only infectious by means of the stools ; take care to throw them away, and pay strict attention to directions under the head of Prevention of Disease, especially as regards the water (page 10).

(3) TYPHUS FEVER.—Used to be considered the same as Typhoid, but it is different. It is important to remember the difference between them, as Typhus fever is very infectious, while Typhoid fever is not. It is caused by overcrowding, bad ventilation, insufficient food, &c., and has been called Gaol, Camp, and *Ship* Fever, because it used to be common in these places. It begins with headache and sickness. Then the usual symptoms of fever set in, and the patient will be heavy, stupid-looking, and confused in his mind. The bowels are confined, the tongue becomes dry and hard and covered with a brown or black crust. About the fifth day a rash of purple-coloured spots comes out in front of the body in patches, and these last till the fever is over. At the end of the first week the patient will become light-headed and very prostrate, and if no improvement takes place will become insensible. The crisis or turn occurs about the fourteenth day, and, if favourable, he will fall into a sound sleep, and a gentle perspiration will break out over the body. Inflammation of the lungs very often comes on during this fever. The temperature often rises to about  $103^{\circ}$  on the first evening, and may continue to rise

till it reaches 106°, the highest point being attained about the fourth day. During the second week it becomes lower, and falls considerably on the fourteenth day, till, about the middle of the third week, it becomes normal. The period of incubation is from five to fourteen days, and the patient should be isolated for at least four weeks, to avoid all fear of infection.

*Treatment.*—At once remove the patient from his shipmates, and place him in a cool well-ventilated place. Shave the head and apply cold spirit lotions (2 oz. of brandy or whisky to  $\frac{1}{2}$  pint of water). Get the bowels well open with a dose of Castor oil, and keep them open regularly with an occasional purgative pill. Give very good, nourishing slop food, and at the end of the first week give 6 oz. of brandy in the twenty-four hours, increasing it to 12 oz. if the pulse is very weak; but when the tongue becomes soft and less dry you may knock off half the brandy. Give lemon- or lime-juice freely to relieve the thirst, in the proportion of about 2 oz. to a pint of water, and the Stimulant mixture (Recipe No. 8) every four hours. If patient is very restless, a dose of the Soothing mixture (Recipe No. 4) may be given occasionally at night. Should inflammation of the lungs come on, apply mustard poultices or Turpentine fomentations to the chest. During convalescence give the Quinine mixture (Recipe No. 9)

three times a day. Use disinfectants and free ventilation all over the ship.

In both these fevers, see that the patient makes water; and if he does not do so, use the catheter very gently every twelve hours. Also keep him clean and dry, and sponge the skin over the rump and hips with weak brandy and water to avoid bedsores.

As it is so important to distinguish Typhus from Typhoid fever, it will be useful to compare the chief symptoms of each in a tabulated form:—

—	Typhus Fever	Typhoid Fever (Enteric Fever)
Onset .	Commences more or less suddenly, with flushed face, headache, and on the second day stupor. Temperature may rise suddenly to 103° on the first evening, and may increase to 106°	Begins gradually, with chills and fever pains in limbs, and loose bowels. Temperature rises gradually, the evening temperature being 1° higher than the morning; during the second week it may be from 102° to 105°, according to the severity of the attack
Eruption	A purple rash appears about the fifth day and lasts till the end; the spots do not disappear on pressure. They are not crescentic like measles	A few rose-coloured spots, which disappear on pressure, come out on seventh day. They appear in successive crops which last about four days
Diarrhœa	Very uncommon—bowels generally confined	Very common, stools like pea-soup; often bleeding from bowels
Tongue .	Nearly always dry, often covered with brown sordes	May be moist



—	Typhus Fever	Typhoid Fever (Enteric Fever)
Organs affected	Head and brain . . .	Stomach and bowels
Duration	From fourteen to twenty-one days	From twenty-one days to two months, gene- rally about four weeks
Death .	By stupor . . .	By exhaustion or per- foration of bowels
Relapses .	Rare . . .	Common
Conva- lescence	Rapid . . .	Slow
Infection	Very infectious . . .	Only through the dis- charges from the bowels
Strength .	Weakness extreme on the fourth day—de- lirium sets in at the end of first week	Weakness not extreme till second week—de- lirium not common before the third week

### MALARIAL FEVERS (AGUE AND REMITTENT FEVER)

These fevers are met with chiefly in the tropics, although they are still to be found in some parts of Europe. They are very prevalent in China, the West Indies, on the West Coast of Africa, the North-Western Provinces of India, the Gulf regions of the United States, the east coast of South America, and many other places. They are the result of a poison existing in marshy, low-lying, and undrained ground, and especially in the vicinity of native houses. Recent investigations point to the fact that this poison is of the nature of a parasite termed

the amœba, which infests particularly the bodies of a certain variety of mosquitoes termed anopheles. It has at any rate been proved that the fevers can be conveyed by the bites of these mosquitoes, and that by avoiding their bites it is possible to secure a certain amount of immunity from them, even when living in malarious districts. Whether this is the only source of infection is not quite determined. One feature of malarial fever is its tendency to return after long intervals, and also to induce a state of general ill-health termed malarial cachexia, which will cause loss of flesh, dropsy, diarrhœa, and a general tendency to bleed from various organs. The liver, kidneys, and spleen are often affected. The chief precautions to be taken to avoid malarial poisoning are :—

(1) Avoid sleeping on shore if possible.

(2) If you do sleep on shore, stay only in mosquito-proof huts ; or, if in tents, be careful to be well protected by mosquito-nets.

(3) Do not pitch your camp within at least half a mile of any native habitation.

(4) If compelled to go out at night, wear a mask or veil, and gloves, and smear all exposed parts of the skin with Castor oil, Carbolic oil, Jeyes' fluid, or Izal (the last two in the proportion of 1 to 40 of water).

(5) Do not drink any water from the shore unless boiled.

(6) Live well but temperately.

(7) Take a double dose of the Quinine mixture (Recipe No. 9) night and morning.

AGUE (Intermittent Fever) is marked by three distinct stages, which are distinguished as the cold, hot, and sweating stages. The first stage is marked by intense cold, the patient shakes and trembles all over, he has pains in the back, head, and loins, the pulse is quick and feeble, and his breathing is hurried. At the same time, however, his temperature is high—from  $105^{\circ}$  to  $106^{\circ}$ . This stage lasts from half an hour to four hours. Then the feeling of cold decreases, the skin becomes hot and dry, the pulse is full and strong, and there is great thirst: this is the second stage. After a time, which varies considerably, the third stage commences—the temperature falls, profuse perspiration breaks out all over the body, and the patient will probably fall into a deep sleep—the paroxysm is over. The average duration of the attack is from five to six hours, but in some cases it may last twelve hours. There are three principal varieties of Ague—the Quotidian, when the attack occurs every day; the Tertian, when it occurs every alternate day; and the Quartan, which occurs every fourth day.

*Treatment.*—During the cold stage give hot drinks, wrap patient in hot blankets, and apply hot bottles to his feet. When the hot stage begins, sponge the body with vinegar and tepid water, and



give cooling drinks, such as lime-juice and water, barley-water, imperial drink, &c. The great remedy is Quinine. This should be given during the intermission. A dose of 10 grains should be given as soon as the sweating stage is over, another dose about five hours afterwards, and a third dose after the same interval. This will probably stop the next fit—if not, it must be repeated in the same way. After the fits are over, 5 grains of Quinine should be given three times a day for at least a week. If the bowels are confined, 3 grains of Calomel should be given at bed-time. The diet should be light and nourishing, and a little wine should be allowed. The other remedies which are sometimes given, if there is no Quinine, are Salicin in 30-grain doses, and Arsenic in the form of Liq. Arsenicalis, in 5-drop doses. These, however, are not in the medicine-chest, and are not equal in value to Quinine.

REMITTENT FEVER.—This is sometimes called Jungle Fever, Bilious Remittent Fever, Malarious Yellow Fever, and Black-water Fever, according to the variety and severity of the symptoms and the locality, but they are all due to the same cause, viz. malarial poisoning. The symptoms are like those of Ague, but the cold stage is very short, and during the remissions the fever never passes away altogether. After a short period of chilliness, the hot stage commences, with violent headache, pains in the limbs, hot skin, high temperature ( $105^{\circ}$  to  $108^{\circ}$ ),

very often vomiting, and sometimes diarrhœa. This lasts from six to twelve hours, when the skin becomes moist, the temperature falls  $2^{\circ}$  or  $3^{\circ}$ , and the most urgent symptoms abate. After a remission of from two to twelve hours another paroxysm will set in as before, and these attacks will recur for a period of from one to three weeks. In very severe attacks, such as Black-water fever, there will be vomiting of blood, bloody urine, with delirium and then coma.

*Treatment.*—Commence with a dose of Calomel, 3 or 4 grains. As soon as the remission occurs give 10 grains of Quinine, and follow this up by giving 5 grains every four hours, till the symptoms abate. If, however, the patient gets too much under the influence of Quinine, as may be known by singing in the ears, giddiness, and confusion of sight, discontinue it for a time or give smaller doses. Should the vomiting be so bad that the Quinine cannot be retained by the stomach, give an enema of 20 grains in a little beef-tea instead. This must be administered by the enema syringe according to the printed directions. Cooling drinks may be given as in Ague, and the body sponged with tepid vinegar and water. The strength must be kept up by good beef-tea, broths, port wine, &c.

The malarial cachexia must be treated by tonics (Quinine or Tincture of Steel), good living, and removal to a cooler climate.

## DIFFERENCE OF SYMPTOMS IN AGUE, REMITTENT FEVER, AND YELLOW FEVER (p. 92)

—	Ague	Remittent Fever	Yellow Fever
Remission	Three distinct stages — hot, cold, and sweating — with regular remissions	Remissions only partial, generally in morning, cold stage short	No remissions, fever continuous
Black vomit	None . .	Only in bad cases	Very common
Bleeding	None . .	Rare (in black-water fever from kidneys)	Very common from mouth, nose, ears, and bowels
Infection	Not directly infectious	Not directly infectious	Infectious
Death .	Rare . .	Rare before seventh day	Common on third day
Quinine	Specific . .	Specific . .	Little effect
After-effects	Malarial cachexia (liver, kidneys, spleen)	Malarial cachexia (liver, kidneys, spleen)	None
Relapses	Common .	Common . .	Rare

## BERIBERI, OR THE BAD SICKNESS OF CEYLON

Beriberi is a disease peculiar to certain tropical countries, and prevails more especially in Ceylon, on the Malabar coast, and in Northern India. It is probably due to a peculiar condition of the soil, which abounds in saline constituents, and drinking the water which percolates through such soil will after some months produce the disease. It often occurs amongst



coloured seamen, and is very fatal. The symptoms are those of extreme debility and poorness of blood. There is general numbness of the body and swelling of the legs, and often paralysis. The breathing is oppressed, the bowels are confined, and the urine scanty. The patient may become so weak as to be unable to turn in his bunk; there is often pain at the pit of the stomach, and great restlessness, with occasional delirium. Death occurs very suddenly.

*Treatment.*—Remove patient to a cool, well-ventilated place. (Give him 5 grains of Calomel at night for several nights in succession, and the Saline draught (Recipe No. 1) three times daily.) Give him all the nourishing food you can obtain, such as fresh meat, soups, and port wine. Afterwards, if the symptoms improve, give him 20 drops of the Tincture of Steel in a wineglassful of water three times daily, and keep the bowels well open by an occasional dose of salts in the morning. The legs should be well rubbed with Turpentine liniment and wrapped in flannel bandages. A native remedy, called Treear Farook, is very useful if it can be obtained. It has a great reputation for the cure of this disease, and is generally given mixed with powdered rhubarb and made into a paste with honey.

## PLAGUE

Plague is a highly infectious fever, which becomes epidemic at certain times in India, Arabia, and China, and spreads with fearful rapidity and fatal results. It is caused by a specific bacillus, which may enter the body either by the skin, the lungs, or the food. The skin is the usual channel by which the plague bacillus finds entrance, and it may do so either by direct contact or by the bites of flies, fleas, bugs, ants, and mosquitoes. In close-crowded dwellings it is probable that infection may take place by breathing the air of the room or any of the discharges from the body, although in well-ventilated places there is not much fear of this. It is also possible that it may infect through the agency of the food or water.

*Symptoms.*—The symptoms commence with a severe headache and pains in the limbs and back, and often feelings of chill. The temperature may rise during the first three days to  $104^{\circ}$  or  $105^{\circ}$ . There is often a dazed, haggard expression of the face. The early symptoms are not unlike those of typhus fever, but on the third day swollen glands appear in the neck, groin, or armpit, which develop into buboes, and purple spots may break out all over the body. Bleeding may take place from the mouth, nose, or bowels, and there is often sickness and diarrhœa. The tongue is dry and coated with heavy fur. The pulse is full

and rapid, often 130 or more per minute. Delirium soon sets in, and death may take place in a short time from exhaustion, or recovery in some cases may ensue. The duration of the disease is generally from six to ten days, but it may be fatal in a few hours. When convalescence does set in, it is usually rapid. The period of incubation is on an average from three to five days. Ships having cases of plague on board should be placed in quarantine for twenty-one days from the recovery of the last case, and a person who has had the disease should be isolated for the same period.

*Treatment.*—Isolate the patient at once, and put him in a cool, well-ventilated place. Sponge the body frequently with Crimson fluid and water (see directions on bottle). Open the bowels with a dose of Castor oil or 5 grains of Calomel. Give Quinine in frequent doses, 2 grains every two hours, and the Stimulant mixture (Recipe No. 8) the alternate hours. Keep up the strength with nourishing diet—milk is the best if it can be obtained; if not, beef-tea and broths. If prostration sets in, give stimulants freely—port wine or brandy at frequent intervals. The buboes and carbuncles should be sponged with hot water or poulticed; and if they burst, the wounds should be treated with Carbolic-acid lotion (Recipe No. 16) and covered with absorbent cotton-wool or oakum. During convalescence give good diet, lessen the stimulants, and administer the Quinine mixture



(Recipe No. 9) three times a day. As the plague is highly infectious, pay particular attention to directions under the head of Disinfection (page 17). Rats and mice will carry infection, and should be destroyed and thrown overboard if possible. Be very careful when attending a case that you have no scratches or abrasions of the skin.

### SMALL-POX (VARIOLA)

Commences with shivering, feverishness, sickness, and *pain in the back*. On the third day the eruption comes out, and is always first noticed on the forehead. Small pimples appear on the face; then on the neck, arms, body, and legs. At first they feel like shot under the skin. On the sixth day a little matter forms on the top of each pimple, which is sunken in the centre. On the eighth day the pustules are mature, and in a few more days begin to break and form scabs. Before they break the face swells, and a flow of thick spittle comes from the mouth; the throat is often swollen, and there is some difficulty in swallowing. These symptoms disappear when the pustules break, but there is often a return of the fever, and in some cases this is a period of danger. The scabs fall off about the twelfth day, and often leave pock-marks on the face. On the seventeenth day the patient is well. The period of incubation is about twelve days.

The severity of the disease depends principally

on whether the patient has been properly vaccinated. If so, and more especially if he has been re-vaccinated, the chances are that, if he gets small-pox at all, it will be very slight, and appear in what is called the modified form. When the disease is prevalent, masters of ships should insist on their crews being re-vaccinated when it can possibly be done—this is the only safeguard.

*Treatment.*—When the symptoms first appear, keep the bowels open gently with an occasional dose of salts, and give the Fever mixture (Recipe No. 2) three times a day. When the eruption is well out, leave off the opening medicine, keep up the patient with good slop<sup>d</sup> diet, and give cooling drinks such as lemon-juice and water. If the strength fail, give wine or brandy. When the itching is very troublesome, and causes wakefulness, give an Opium pill every night while it lasts. To prevent pitting, smear exposed parts with Carron oil or Vaseline, and keep patient in a dark room. During convalescence give the Quinine mixture three times a day, and good nourishment. Small-pox is a most infectious disease. The directions under the head of Disinfection (page 17) must be scrupulously followed.

### CHICKEN-POX (VARICELLA)

Somewhat resembles mild cases of small-pox. About four days after exposure to infection, slight feverish symptoms will appear, and in twelve to

twenty-four hours an eruption comes out as little pimples, which soon become filled with clear fluid, looking like small blisters. On the third day they burst and dry up, leaving a crust which falls off in three or four days. Successive crops may come out every twenty-four hours, and may go on forming for ten or fourteen days. They leave no scars.

*Treatment.*—Low diet, cooling drinks, and the Fever mixture (Recipe No. 2) three times a day.

#### DIFFERENCE OF SYMPTOMS IN CHICKEN-POX AND SMALL-POX

	Chicken-pox	Small-pox
Fever.	Very slight	Severe
Eruption	Appears first on shoulders and neck in about twelve hours	Face; on second or third day; feels like shots under the skin
Vesicles	Burst on the third or fourth day; do not go into pustules	Burst on eighth or ninth day, previously forming pustules depressed in centre
Scabs	Fall off about twelfth day, and leave no scars	Fall off about fourteenth or fifteenth day, and leave scars or pits

### SCARLET FEVER

May attack adults if they have not had it in childhood. The incubation period is from three to five days. It comes on with the ordinary symptoms of fever, to which is added sore throat. The rash appears on the second day, first on the neck and upper part of the chest, then on the face and trunk,



and lastly over the arms and legs. When fully out, the whole skin is of a bright scarlet tint. The rash remains out for three or four days, then gradually fades, and the skin peels off in scurf or large flakes. The tongue is at first covered with a white fur, which comes off, leaving it a bright red. The throat is red and swollen, and in bad cases becomes ulcerated, with an offensive discharge. The temperature may rise to  $104^{\circ}$ . When the fever is over, it often happens that inflammation of the kidneys and dropsy come on.

*Treatment.*—In slight cases all that is needed is to keep the patient in a well-ventilated room; give slop diet, cooling drinks, such as weak lemon- or lime-juice and water, and the Fever mixture (Recipe No. 2) three times a day. If you can obtain it, 1 drachm of Chlorate of Potash, dissolved in 1 pint of water, makes an excellent drink, which relieves the soreness of throat. If the throat symptoms are bad, keep on a Linseed-meal poultice, and gargle or swab out the back of the throat with weak Crimson fluid (a teaspoonful to half a pint of water). If great weakness should come on, keep up the strength with beef-tea, and give from 6 to 8 oz. of port wine every day. Also give the Quinine mixture (Recipe No. 9) instead of the Fever mixture. For the dropsy that sometimes follows Scarlet fever, keep the bowels open with a dose of Epsom salt every other morning, and give 15 drops of Tincture of Steel three times a day in a little water. Scarlet

fever is very infectious, and the most dangerous time is when the skin is peeling. To guard against infection, rub the patient's body all over with Carbolic oil (Recipe No. 17), and be very careful to disinfect the clothes and fumigate the room that has been occupied (page 17). The infectious period lasts for about six weeks, or as long as the skin is peeling.

### MEASLES

Is not very likely to occur among men. The symptoms commence with sneezing, snuffling, and running of the eyes, followed, on the fourth day, by the appearance of a raspberry-coloured rash in blotches or half-circles, which commences on the face, then spreads over the body. It lasts from ten to twelve days. Measles is infectious for about two days before the rash appears, and for about three weeks after.

*Treatment.*—Keep the bowels moderately open, and give the Fever mixture (Recipe No. 2) three times a day, with slop diet. Should inflammation of the lungs come on, treat as directed (page 99).

### GERMAN MEASLES (RÖTHELN)

Is a disease between measles and scarlet fever, and has some of the symptoms of both. It begins with those of measles, running at the nose, headache, and slight fever, and sometimes sore throat. The rash comes out about the second day, and is very

## DIFFERENCE OF SYMPTOMS IN MEASLES, GERMAN MEASLES, AND SCARLET FEVER

	Measles	German Measles	Scarlet Fever
Symptoms .	Running nose, watery eyes, sneezing, cough, fever, sometimes followed by pneumonia and pleurisy	Running nose, watery eyes, sneezing, sore throat, little fever	Sore throat, headache, chills, strawberry tongue, severe fever, swelling of glands of neck, often followed by dropsy
Rash .	On fourth day raspberry coloured, like flea-bites, in half circles, rough to the finger; lasts six to seven days	On second day irregular patches of red spots close together, not in half circles, rough to finger; lasts from five to ten days	On second day as small red spots till the whole skin is of a bright scarlet tint, smooth to the finger; lasts about eight days
Skin peels .	In scales . . . .	In small flakes . . . .	In large flakes
Temperature	101° to 103° . . . .	100° . . . .	104° to 105°
After-effects	Lungs . . . .	None . . . .	Throat and kidneys



like that of measles, but the spots are of a brighter colour and closer together. The attack often begins like measles and ends like scarlet fever, and lasts from five to ten days, after which the skin comes off in flakes. Sore throat is always a prominent symptom, but less severe than that of scarlet fever. The disease is very infectious.

*Treatment.*—Same as measles.

## ERYSIPELAS

Is known by an intensely red and shining condition of the skin, which begins by a single spot. This extends very rapidly, produces much swelling, and (except when following wounds) nearly always appears on the face, scalp, or legs. During the spread of the inflammation there is a good deal of high fever, the temperature rapidly rising to  $103^{\circ}$  or  $105^{\circ}$ . Erysipelas may come on without any apparent cause, but often starts from some wound or injury if the person is in a bad state of health or living in an unhealthy atmosphere. In slight cases it disappears in a few days, but in severe cases blisters will appear on the affected part, and matter form beneath the skin. When this is the case it will be accompanied by a good deal of low fever.

*Treatment.*—Wrap up the part affected in cotton-wool, or powder it well from the cook's dredging-box, to keep out the air as much as possible. If matter

form, the part must be poulticed, and when ripe opened with an abscess knife. Give at first a Blue pill, followed by a Black draught, to open the bowels, and then administer 20 drops of Tincture of Steel in a little water three times a day. Should great weakness come on, keep the patient up with beef-tea, wine, or brandy, as may be required. Allow nothing but slop diet. Erysipelas is infectious, and is particularly liable to spread to others suffering from wounds of any kind. Care should therefore be taken to isolate the patient and disinfect his surroundings (see page 17).

## YELLOW FEVER

This disease exists only in countries where the temperature reaches at least 75° Fahr. It occurs chiefly in the West Indies, in those parts of the Americas bordering on the Gulf of Mexico, on the West Coast of Africa, and sometimes in Spain.

It is a distinctly infectious disease, and the infection is believed to be chiefly in the vomit. It is often carried by ships from one district to another, and is peculiarly liable to occur in dirty, badly ventilated forecastles. It is a very fatal disease, the mortality being often as high as one in three.

From two to ten days after exposure to infection, the disease commences with chills and flushes of heat, which are followed by high fever, the tempera-

ture rising to  $101^{\circ}$  to  $105^{\circ}$  according to the severity of the attack. There are severe headache and pains in the back, and nausea and tenderness at the pit of the stomach. After a few days, vomiting commences, everything is thrown up without effort, and the vomited matter is tinged with bile or blood—black vomit. The pain in the stomach is increased and the bowels are very confined. About the third or fourth day the skin becomes yellow and the eyes the same. The stools are deficient in bile and often black with blood. The mind may wander. On the fourth or fifth day the symptoms may improve and the patient feel relieved. This is sometimes the beginning of convalescence, but frequently the improvement is short, the black vomit will begin again, the skin become more yellow, extreme prostration will set in, violent pains in the calves of the legs, delirium, and death. The disease lasts from three days to a week, but death may take place in a few hours. To distinguish it from Malarial fevers, see page 81.

*Treatment.*—Get the bowels well open with a strong dose of Castor oil, and keep them open every day by doses of Epsom salt, if the stomach will bear it. When vomiting sets in use injections of salt water with the enema syringe instead (about 1 pint at a time). Sponge the body with cold water as long as the heat of skin continues ; but if the patient becomes cold, put him into a warm bath at a temperature of



90°. Mustard leaves or Turpentine stupes should be applied over the stomach. The Fever mixture (Recipe No. 2) may be given three times a day, or, if the vomiting be great, small doses of the Effervescing mixture (page 156) may be administered. Keep patient very clean, see that he makes water regularly, and use the catheter if necessary (page 141). During the first few days give no food except small quantities of arrowroot or weak gruel, but allow cold water or lime-juice and water to allay thirst. If there be much weakness, small quantities of weak brandy-and-water may be frequently given.

During convalescence let the diet be as liberal as possible, with a daily allowance of wine or beer, and give him the Quinine mixture (Recipe No. 9) three times a day. Isolate the patient at once, and be very careful to carry out directions under head of Disinfection (page 17).

### DENGUE (DANDY FEVER—BREAK-BONE FEVER)

This is an infectious fever coming on suddenly, with pain in the head and eye-balls, and excruciating pains in the muscles and joints, which are swollen and painful. There is also sore throat and catarrh, with inflamed eyes. The temperature rises rapidly to 103° or 105°, and a rash somewhat resembling scarlet fever breaks out over the body.

These symptoms last for one or two days, then the rash disappears and the fever subsides, and a remission lasts for two or three days. A recurrence of the fever occurs about the fourth day, followed by another rash, the colour of which is between scarlet fever and measles, and it often appears first on the palms of the hands. On the seventh or eighth day the symptoms subside and the skin begins to peel; but swelling of the joints, especially of the smaller ones, may last for some weeks. The disease occurs chiefly in tropical regions, particularly in the West Indies and South America, and is not very dangerous.

*Treatment.*—Give one dose of Calomel (3 grains) to commence with, and the Saline mixture (Recipe No. 1) three times a day. If there be much pain and restlessness at night, give a dose of the Soothing mixture (Recipe No. 4) or an Opium pill. The diet should be gruel, barley-water, or milk during the attack, but in the stage of convalescence broths and beef-tea, with a little wine or brandy, may be given. Also give as a tonic 10 drops of Tincture of Steel in a wineglassful of water three times a day. Pay attention to disinfection (page 17).

## INFLUENZA (LA GRIPPE)

This must be regarded as an infectious disease which may spread from one person to another, although it often attacks a large number of persons

at the same time. Its origin seems to depend on some atmospheric influence, and it is most prevalent in moist, muggy weather.

*Symptoms.*—The attack comes on suddenly, with fits of shivering and intense aching in the limbs and back. There is a feeling of great depression and lowness of spirits, and often shortness of breath and palpitation of the heart. The temperature may rise to  $102^{\circ}$  to  $104^{\circ}$ , and the pulse is quick and bounding. There is generally great thirst and restlessness at night. In some cases there is severe cough, and in others diarrhoea and pains in the stomach. In the majority of cases the temperature suddenly drops after five or six days, and there is profuse sweating. The patient will then gradually get better, but the appetite remains bad for some days longer, whilst the weakness may continue for a considerable period. Relapses are very likely to occur, and complications of bronchitis and pneumonia must be guarded against. It seems to pick out the weak points of the constitution.

*Treatment.*—The patient should at once take to bed and remain there till the temperature becomes normal. A basin of warm gruel should be given with 10 grains of Dover's powder, to induce sweating. Then let him take 5 grains of Quinine three times a day for several days, followed by smaller doses (Recipe No. 9). The diet should be light and nutritious, such as arrowroot, beef-tea, &c., and



during convalescence a little port wine will do good. The Quinine mixture (Recipe No. 9) should be continued for some time after he is better. Should Pneumonia or Bronchitis supervene, he must be treated according to directions given under those heads. Isolation and disinfection must be attended to, as the disease is certainly infectious.

### DIPHTHERIA (PUTRID SORE THROAT)

This is an infectious disease of the throat, often caused by bad drainage, and often conveyed by milk. It commences with shivering and sometimes with sickness. Then the throat feels sore, the tonsils swell, and a white patch appears on one of them, which soon extends till the whole throat is covered with a false membrane like washleather. This will come off, and leave a red, bleeding surface, which is soon covered up with a new membrane which smells very offensively. Death may occur from exhaustion or suffocation. The disease may last from two days to a fortnight, and may leave partial paralysis of the throat behind it.

*Treatment.*—The chief thing is to support the strength of the patient by strong beef-tea, port wine, milk, raw eggs and brandy, &c. The throat should be covered with a Linseed poultice, and the steam of hot water into which a teaspoonful of Friar's balsam has been put should be inhaled from a jug.

Tincture of Steel may be given every four hours in 20-drop doses mixed with a wineglassful of water. Disinfection must be carried out as directed (p. 17).

## COUGH, BRONCHITIS, INFLAMMATION OF THE LUNGS, AND PLEURISY

(1) A severe cough, with a variable quantity of frothy, white, and sometimes mattery expectoration, will generally indicate Bronchitis, which lasts from five to ten days.

(2) A cough, with a small quantity of rusty or bloody expectoration, much heat of skin, and difficulty of breathing, will generally indicate Inflammation of the Lungs, which lasts from seven to fourteen days.

(3) A sudden pain in the side, which catches patient when he breathes or coughs, may be due either to Pleurodynia (muscular rheumatism) or Pleurisy (inflammation of the lining membrane of the lung). If there be fever as well, and the pain remains in one spot, and is increased by pressure, the case is probably Pleurisy. The thermometer is here an infallible guide. If the temperature remains normal, it indicates Pleurodynia, which is a very harmless complaint; but if it rises to  $101^{\circ}$  it denotes Pleurisy, which is a serious disease.

(1) For the first of these (BRONCHITIS) commence by opening the bowels with a Purging pill; put Mustard poultices to the chest, and give the Cough

mixture (Recipe No. 7) every four hours. When the cough gets looser, and there is a good deal of expectoration, add 2 drachms of Aromatic Spirits of Ammonia to the 6-oz. bottle of the Cough mixture, and give it as before. During convalescence give the Quinine mixture three times a day. A troublesome cold may often be cut short by making the man turn in, and giving him 20 drops of Laudanum and 20 drops of Sweet Spirits of Nitre, in a glass of hot grog. For winter coughs of a chronic nature there is nothing better than 30 drops of Friar's balsam given in a little gruel three times a day, or the following may be substituted: Take 2 drachms of Elixir of Vitriol,  $\frac{1}{2}$  oz. of Paregoric, and 1 oz. of Treacle, put them into a 6-oz. bottle, and fill up with water; the dose will be 1 tablespoonful three or four times a day.

(2) For the second (INFLAMMATION OF THE LUNGS) pursue the same course as for the first, but should signs of weakness come on, leave off the Cough mixture, and give the Stimulant mixture (Recipe No. 8) every three hours. Give also 4 to 6 oz. of brandy in the twenty-four hours, till the spitting ceases to be rusty and the skin to be hot. Keep the chest covered with Linseed-meal poultices, and, if patient can get no sleep at night, give a dose of the Soothing mixture (Recipe No. 4).

(3) For the third (PLEURISY) give 3 grains of Calomel and 5 grains of Dover's powder at night,



DIFFERENCE OF SYMPTOMS IN PNEUMONIA (INFLAMMATION OF THE LUNGS), PLEURISY, AND PLEURODYNIA  
(MUSCULAR RHEUMATISM)

	Pneumonia	Pleurisy	Pleurodynia
General symptoms	Begins with a single shivering fit, short harsh cough, thirst, dry hot skin, quick pulse, pain inside increased by breathing, extreme shortness of breath	Begins with chillings, sudden sharp pain in chest increased by breathing, short-dry cough, hot skin, shortness of breath, a rubbing sound heard in chest over the seat of pain	Pain in side sometimes called 'a stiteh,' increased by breathing or by any movement which stretches the muscles
Sputa	Rusty-coloured like jelly; will stick to bottom of vessel	Frothy, occasionally streaked with blood	None
Temperature	102° to 105°	101° to 103°	Normal
Duration	About fourteen days, but sudden improvement marked by perspiration often occurs at end of first week	From a week upwards	Uncertain
After-effects	Sometimes partial loss of lung	Water on the chest	None

followed by a dose of Epsom salts in the morning. Also give the Saline mixture (Recipe No. 1) every four hours. Apply Mustard poultices or leaves to the chest, followed by hot fomentations. Give only slop diet. If the pain and restlessness should prevent sleep, give a dose of the Soothing mixture (No. 4) at night. Should shortness of breath and inability to lie on the affected side remain after a few days, it shows that there is probably water on the chest. If so, paint the side with strong solution of Iodine and apply a broad bandage. Also give 15 drops of Tincture of Steel in a little water three times a day. Pleurodynia requires the same treatment as Chronic Rheumatism.

## CONSUMPTION

Consumption is a wasting disease caused by small germs called 'tubercle bacilli,' which usually enter the body by the air breathed. It has been proved of late years that it is infectious by means of the matter which is coughed or spat up, and the tendency to contract it is increased by dirt, bad ventilation, and overcrowding. It begins by a short hacking cough, with much mattery, and often bad-smelling, expectoration. After a time the matter will be seen to be streaked with blood, and sometimes a considerable quantity of blood is coughed up. The patient will gradually lose flesh and become weaker. There

is generally some fever, particularly at night, when the temperature may rise to  $102^{\circ}$  or  $103^{\circ}$ , and there may be some cold sweats. Often attacks of diarrhœa come on, particularly towards the end, when he gradually sinks.

*Treatment.*—As Consumption is to a certain extent infectious, the patient should not be allowed to sleep in the fore-castle with the rest of the crew, and care should be taken that everything he coughs up is thrown overboard, and his bed-clothing and personal clothing should be boiled and washed separately. As the great curative agents are fresh air and sunshine, let him be removed to as well-ventilated a place as possible, and be in the open air whenever he can. Relieve the cough by giving a tablespoonful of the mixture prescribed on page 99 for winter coughs occasionally. A drachm of Paregoric or an Opium pill may be given at night, if he cannot sleep. Rub in some Turpentine liniment under the collar-bones, or paint the upper part of the chest with strong solution of Iodine. Let him have as a tonic the Quinine mixture three times a day, and if there should be night sweats, add 10 drops of the Elixir of Vitriol to each dose. If he should bring up blood in considerable quantities, let him inhale a little Turpentine from cotton-wool and take 20 drops of the Tincture of Steel every three hours whilst it continues. As long as the bleeding continues, he should be given nothing but cold drinks, and made to suck ice if it can be procured.



Witch Hazel is also an excellent remedy for internal bleeding, whether from the lungs or the stomach. It may be given as prescribed (Recipe No. 10) every two hours. The diet in Consumption must be as nutritious as possible, and at the first opportunity Cod-liver oil should be obtained, and a tablespoonful given three times a day. The chest must be well protected with flannel.

### BLEEDING FROM THE STOMACH (HÆMATEMESIS)

Bleeding from the stomach may be distinguished from bleeding from the lungs by the blood being vomited instead of coughed up. It is of a darker colour, is often mixed with food, and is not frothy, like the other. The bleeding is often followed by black motions, which may contain blood. It is usually caused by an ulcer of the stomach, or it may possibly be cancer. It is also one of the symptoms of disease of the liver caused by drinking, and often occurs in the course of Yellow fever, Remittent fever, and Scurvy.

*Treatment* is much the same as in bleeding from the lungs. Let patient suck ice if possible, and place a lump on his stomach. Give a teaspoonful of Tincture of Steel in water, or a teaspoonful of Turpentine in water or milk. If you have nothing else handy, give him 10 grains of Alum in water,

and let him also suck a piece. After the first sharp attack is over, let him keep on his back and avoid solid food. The mixture of Witch Hazel (Recipe No. 10) may then be given every four hours for a few days, followed by the Quinine mixture (No. 9), with 10 drops of the Elixir of Vitriol added to each dose, till all signs of bleeding have stopped.

## QUINSY

A swelling of one or both tonsils (which are small round lumps at the back of the throat) is a sufficient explanation of this disease, which is often very alarming and very distressing to the patient, but rarely fatal.

It lasts from five to ten days.

Get the bowels open, and make him gargle continually with warm water, and breathe the steam of hot water from a jug, a handkerchief being thrown loosely over the head to keep in the steam. Wrap up the throat with flannel, and give the Quinine mixture (Recipe No. 9) three times a day. After much pain, and apparent danger of suffocation, the swelling will burst, and the man will speedily get well.

## SORE THROAT (ORDINARY)

This is simple inflammation of the throat, without the swelling of the tonsils mentioned in Quinsy, and is brought on by exposure to wet and cold. There is generally heat and dryness of the throat, with pain on swallowing and more or less hoarseness. There is a constant desire to cough, without anything being brought up. It is generally accompanied by feverish symptoms. It lasts from a few days to a week, but often leaves behind a relaxed condition of the throat, accompanied by a tickling cough which is difficult to get rid of. Excessive smoking, or too much straining of the voice, will sometimes produce a relaxed Sore Throat.

*Treatment.*—Give 10 grains of Dover's powder at night, and 5 drops of Spirit of Camphor in water every hour during the day. Let the patient inhale the steam of hot water from a jug into which a teaspoonful of Friar's balsam has been put. A piece of flannel should be wrapped round the throat. A gargle of hot milk-and-water will also do good. For a relaxed condition of the throat tonics are required. Let him take the Quinine mixture (Recipe No. 9) three times a day and gargle the throat with Alum gargle (Recipe No. 12) frequently. Chlorate of Potash lozenges are very useful, if you have any.



## HEART DISEASES

Heart diseases are mostly difficult to discover. The general symptoms are shortness of breath, with or without cough, pain about the left nipple, with palpitation, and a swelling of the legs, purse, and body, commonly called Dropsy. (Dropsy, however, often exists in diseases of the liver and of the kidneys.)

If there is much pain, put a hot fomentation on the chest ; and if the Dropsy increases, get the bowels freely open with a dose of Epsom salts, repeating this every third day for about fourteen days, if it does not appear to weaken the patient. *Opium must not be given* in these cases to procure sleep, but in cases of sudden and severe pain, with difficulty of breathing (called Breast-pang), a dose of the Soothing mixture (Recipe No. 4) may be given.

If any spitting of blood occur, nothing warm must be taken.

## JAUNDICE AND LIVER DISEASES

Jaundice, like cough and diarrhœa, is only a sign of disease ; and as a cough shows that something is wrong with the lungs, and diarrhœa points to Cholera, Fever, or Dysentery, so jaundice shows that the liver is out of order.

Yellowness of the skin and of the eyes is a sufficient indication of Jaundice, which may accompany any form of liver disease.

These forms of disease are so various and intricate that a detailed description of them would be confusing and useless. You must therefore treat symptoms.

In all cases give a Blue pill every other night, and a Black draught every morning, till the yellowness subsides. If there be much pain over the liver, put on a Turpentine fomentation (Recipe No. 19) once or twice only, and if the pain be intensely severe and come on suddenly (indicating a gallstone), give an Opium pill, but do not repeat it unless absolutely necessary. In the latter case relief will be given by letting the patient drink one or two tumblers of hot water with a pinch of Carbonate of Soda added.

Most disorders of the liver are known by a pain in the right shoulder, a dull aching on the right side, sluggishness of the bowels, and excessive general weakness.

Some forms of liver disease are caused by drinking, some by dysentery, and some by the passage of a gallstone ; but you cannot do more than is above indicated, and you will find, after reaching temperate latitudes, that the patient will generally improve.

## CONSTIPATION

An obstinate confinement of the bowels is often aggravated rather than relieved by the use of purgatives. Give two Purging pills every other night for a week, and 1 oz. of Epsom salts in the morning ; if this does not succeed, an injection up the vent of soap-and-water may answer the purpose.<sup>1</sup> *Ask every man who complains of constipation if he has a rupture*, and, if this be the case, treat him immediately as directed in this book (see page 138). Do not persevere with purgatives if the above directions fail ; give any sort of fruit (fresh or preserved) if you have it on board, tell the patient to take a cold bath every morning, and leave the rest to Nature. A glass of cold water taken slowly before breakfast often has a good effect.

## INDIGESTION

This is a very common complaint among sailors, who will come aft complaining of wind on the stomach and pain about the belly after meals. Give the Stomachic mixture (Recipe No. 6) three times a day, after meals, and a Purging pill, if necessary, every other night.

<sup>1</sup> Two pints of warm soap-and-water should be injected slowly by means of Higginson's enema syringe.



## DIARRHŒA

Sailors are often attacked with simple looseness of the bowels; but when an illness begins in this way, look out for Typhoid fever (as described on page 70), Dysentery (page 111), or Cholera (see below). If you cannot satisfy yourself that the looseness is a symptom of any of these diseases, and you believe that the Diarrhœa arises from something injurious that has been swallowed by the patient, give 1 oz. of Castor oil with 10 drops of Laudanum. But if it continue beyond four or five hours, give him 10 drops of Tincture of Chloroform and Morphine after every loose motion, and he will soon get well.

Should this not check it after three or four doses, give the Diarrhœa mixture (Recipe No. 3) every three or four hours.

## CHOLERA

This disease generally commences with simple diarrhœa, which may go on from two to eight days. If neglected, agonising cramps, stools resembling rice-water, vomiting, and a general blueness of the body follow.

This stage lasts from two to forty-eight hours.

If the patient survive it, he will either improve very rapidly or will have an attack of fever, with

hot skin, white furred tongue, and great general weakness.

This stage lasts from two to seven days.

*Treatment.*—It cannot be too forcibly impressed upon your mind that no good can be done unless you treat a case in the first stage, and so I repeat a warning before given (page 18), that you should urge upon all your men to come aft as soon as any looseness of the bowels begins. Give them 10 drops of Laudanum to commence with, and the Diarrhœa mixture (Recipe No. 3) after every loose motion, and, above all, let them have as much rest as you can.

If the disease is not checked by these means, but goes on to the second stage, viz. rice-water stools and cramps, the best thing to administer will be Spirits of Camphor. This may be prepared by dissolving 2 oz. of Camphor in  $\frac{1}{2}$  pint of whisky, brandy, or any spirit. Give 5 drops of this with a tablespoonful of hot brandy-and-water every quarter of an hour, and it will often have a good result. At the same time apply a large Mustard poultice to the stomach and belly, put hot-water bottles or bags of salt to the feet, and well rub the limbs to relieve the cramps. If you can possibly procure it, let ice be sucked to relieve the thirst; if not, cold water must be given. The diet must be light and nutritious, consisting of milk, arrowroot, beef-tea, &c., given frequently and in small quantities at a time. It is probable that Cholera is caused by drinking water

contaminated with the discharges from a person suffering from the disease, and is not communicated directly from one person to another. Care should be taken to throw overboard immediately all stools passed, and if possible all soiled clothes, and to wash out the quarters where the patient is berthed frequently with Carbolic-acid water or other disinfectant. When Cholera is present, or when it is feared, pay strict attention to the directions given under the head of 'Prevention of Infectious Diseases' (pages 16, 17, and 18), and you will in most cases prevent it from spreading.

## DYSENTERY

This disease is almost entirely confined to the crews of ships trading to China and the East Indies; sometimes, but much more rarely, it occurs in ships coming from the West Indies, West Coast of Africa, South America, and some of the Mediterranean ports, particularly Alexandria and Odessa. It sometimes follows an attack of Ague or Remittent fever.

The symptoms are well known to most captains:—

Looseness of the bowels, with much straining, stools more or less bloody, resulting in great general weakness.

In nine-tenths of the cases that occur in East India and China ships, the sailors will tell you that



they had Dysentery in the country before sailing, and this probably for some weeks. If such a history be made out satisfactorily, you must let your patient have as much rest as possible, give him slop diet, continue his lime-juice, let him have 10 grains of Dover's powder three times a day, 10 drops of Laudanum in 1 oz. of Castor oil every third day, and plenty of warmth to the body. Leave off the lime-juice at the end of a week for a few days only, if it appears to aggravate the disease, *but under no other circumstances*. This is the only useful treatment for such cases in the tropical seas ; you will find that, when temperate latitudes are reached, your patient will almost invariably improve ; and you may then give him 2 grains of Quinine three times a day for several weeks. Arrowroot, sago, flour, rice, or any other light extras that you may have, are always well expended on such cases. If, however, you are perfectly satisfied that the disease has occurred for the first time in a man *after* the ship has put to sea, pursue the same directions as to diet, knock off all his lime-juice, and, instead of Dover's powder, give 5 grains of Ipecacuanha powder three times a day, gradually increasing the dose to 10 or 15 grains if no vomiting occur. One of the Opium pills may be given every other night with 2 grains of Calomel, and a tablespoonful of Castor oil on alternate mornings. If your patient does not improve under this treatment, give him his lime-juice again, and pursue

the same plan as that first recommended. It must be recollected, however, that in India and China very few cases of Dysentery *commence* after leaving port, the vast majority being cases where the disease has begun during the sailors' stay in the country. When there is much blood in the motions, the Witch Hazel mixture (Recipe No. 10), given every four hours, will often do good.

No other patients who may come under your care will so well repay all possible indulgence that you can give them in the matter of rest when ill, and easy *deck* work when improving.

## COLIC

This disease frequently occurs among seamen and others from no very obvious cause, and also after drinking water that has passed through leaden pipes, or has been kept in leaden vessels; or more often breaks out among a ship's crew after working at any occupation in which white or red lead is used. It begins with severe twisting pains about the belly, which is *not* tender on pressure. The pains commence suddenly, and come on again at irregular intervals, with great confinement of the bowels. Look for a narrow blue line along the edge of the gums, which, if found, is at once a proof that lead is the cause of the disease. It is probable that several of the crew will be affected at the same time.

If this be the case, and you are using white or any other kind of lead in painting or repairing the ship, leave off the work as soon as is practicable. Give your patients a good dose of Castor oil with 10 drops of Laudanum, put them on slop diet, and make them wash themselves and their clothes thoroughly. When the bowels have acted well, give them 2 drachms of Epsom salts and 10 grains of Nitrate of Potash, with 5 drops of Essence of Ginger, twice a day, and, if the pain continue, put on their stomachs a large hot fomentation, repeating this until the pain abates. This treatment, *with entire absence from all work in which lead is used*, must be continued until the bowels are regular and the patients free from pain, or Palsy of the hands may follow, and the men will then be entirely useless to you for the rest of the voyage.

If any signs of Palsy should appear, give 5 grains of Iodide of Potassium, dissolved in water, three times a day, and continue this for some weeks.

## INFLAMMATION OF THE BOWELS

This disease, which is very dangerous, may be produced by cold and wet, by injury to the belly, by rupture (page 138), or by too much purgative medicine. It is very important to distinguish it from the last disease (Colic), as the treatment must be very different. The attack begins with a shivering fit ;



it is accompanied with a good deal of fever ; in Colic there is no fever. There is great and constant pain in the belly, which is much increased by pressure ; in Colic the pain is variable, and is often relieved by pressure. There is frequent vomiting, and the bowels may be confined or the reverse ; in Colic there is no vomiting, and always obstinate constipation.

*Treatment.*—Be very careful to give *no purgative medicine*. If you have them, apply leeches to the belly ; if not, put on light Linseed-meal poultices or Turpentine stupes. The bowels may be moved by a large injection of warm water (about 2 quarts), gently administered ; an Opium pill may be given every four hours, and the sickness relieved by effervescing drinks of lime-juice and water with a teaspoonful of Carbonate of Soda added. When the pain and tenderness are gone a dose of Castor oil may be given—not before.

## FIREMAN'S CRAMP

Firemen are peculiarly liable to a severe form of Cramp, which affects the muscles of the belly and of the arms and legs. The muscles of the arms and legs will be drawn into knots which will cause considerable pain, and the pain in the stomach and belly will resemble severe Colic. It is caused by working hard in a very hot atmosphere, and then drinking a considerable quantity of cold water. It is most likely

to affect those who have been having a debauch on shore before coming on board.

*Treatment.*—Rub the affected parts well with Opodeldoc or Turpentine liniment, and give 10 drops of the Compound Tincture of Chloroform and Morphine every two hours till relief is felt. A warm bath will be useful if it can be obtained.

## KIDNEY DISEASES

**BRIGHT'S DISEASE.**—The most common form of Kidney disease that is likely to be met with is what is called Bright's disease ; it frequently comes on after exposure to cold, or at the termination of some acute fever, particularly Scarlet fever. The abuse of spirituous liquors is also a frequent cause of this disease. The chief symptoms are pain in the loins and a frequent desire to pass water in small quantities. The water passed is of a dark smoky character, and if examined by a doctor would be found to contain albumen. There is swelling of the legs and face, particularly below the eyes and round the ankles. The thermometer will show there is some fever present. The skin is hot and dry, and there is great thirst. Recovery may take place in a few days or a few weeks, but the disease may pass into a chronic stage, in which there is general Dropsy, great debility, and sometimes stupor which may end in death.

*Treatment.*—The patient should be put to bed and a large Linseed-meal poultice applied to the loins, or warm fomentations may be used instead. If you have any Cream of Tartar on hand, it may be given freely to the extent of  $\frac{1}{2}$  oz. in the day, mixed with the drink (see Imperial drink, page 171). If not, let him take a Purging pill every other night and the Saline mixture (Recipe No. 1) three times a day. Let the diet be light and nutritious. If the symptoms begin to improve, leave off the Saline mixture and give 15 drops of Tincture of Steel three times a day. In the majority of cases, however, the patients will be unfit for any active work during the remainder of the voyage.

PASSAGE OF A STONE.—Sometimes a stone, composed of small particles of gravel glued together, forms in the kidneys. Whilst it remains there it may give rise to uneasiness and backache, with sometimes bloody urine. When it passes into the bladder it gives rise to intense pain shooting down the groin, with often a feeling of sickness, and vomiting. After a time the pain may remit, but it soon returns, till after two or three paroxysms the stone passes into the bladder, when instant relief is felt.

*Treatment.*—Put the patient in a hot bath, and give 20 drops of Laudanum, to be repeated in an hour if necessary. Warm barley water may be given freely. When the attack is over, give the Saline mixture (Recipe No. 1) three times a day for some



days. Small stones may pass away with the water, but large ones will require an operation sooner or later.

## FITS

Fits commonly so called are chiefly of two kinds, Apoplexy and Epilepsy.

APOPLEXY, or Stroke, is the result of fulness of the blood, and mostly occurs in stout, short-necked persons. It comes on suddenly: the patient will fall down as if shot; the face, at first flushed, becomes livid, the pulse is full and slow, and the breathing snoring. If he recovers, it will be generally found that he has lost the use of one side of the body.

*Treatment.*—Place the body in a lying-down position with the head raised. Loosen clothing round neck. Apply cold to the head, and Mustard plasters to the feet and calves of the legs. Use an injection up the vent of 1 oz. of Turpentine with 1 pint of warm gruel. When consciousness is restored give half a dose of Epsom salts. Let the diet be light, and allow no stimulants of any kind.

EPILEPSY, the Falling Sickness.—Patient utters a peculiar cry and falls down in convulsions. His whole body works and twists with such violence that it requires two or three strong men to restrain him. He foams at the mouth, his hands are clenched, his breathing is suspended, face is distorted and livid; he bites his tongue, and for the moment appears at

the point of death. In a short time the convulsions cease, and he awakes heavy and stupid, with no recollection of what has taken place. The only thing to do during the attack is to raise the head, loosen the neckerchief, throw cold water on the face, and prevent him from injuring himself. Put a piece of soft wood or a handkerchief between his teeth to prevent his tongue from being bitten. The best medicine to give to prevent a return of the attack is the Bromide of Ammonium; this may be given, in doses of 15 grains dissolved in water, three times a day, and must be continued for some weeks to do any good. No one liable to Epilepsy should go to sea.

FAINTING is due to failure of the heart's action, and is caused by loss of blood, by weakness from any debilitating illness, by hunger, or fright. The patient suddenly feels giddy and staggers, and then, perhaps, falls down and loses consciousness.

*Treatment.*—Lay patient on his back and loosen the clothes round the neck and chest. Sprinkle cold water on the face and chest, and expose the body to a cold draught. When consciousness returns give a little stimulant, such as a teaspoonful of Aromatic Spirit of Ammonia in a wineglassful of water, or a few spoonfuls of brandy in water. Then find out the cause and treat accordingly.

INSENSIBILITY may also be caused by concussion of the brain from a blow to the head (see page 56),

DIFFERENCE OF SYMPTOMS CAUSED BY APOPLEXY, CONCUSSION OF BRAIN, OPIUM POISONING,  
AND INTOXICATION

Apoplexy	Concussion	Opium	Intoxication
1. Patient cannot be roused	May partially recover soon after injury	Can be roused by loud noises	Can be partially roused
2. Occasional vomiting	Generally vomiting	Vomiting not frequent	Frequently vomiting
3. Snoring breathing .	Quiet breathing .	Snoring breathing .	Ordinary breathing
4. Face first flushed, then cold and clammy	Face pale, skin cold	Face livid, cold clammy sweats	Face flushed, smells strongly of drink
5. Pulse slow and strong	Fluttering pulse	Weak, slow pulse	Quick, excited pulse
6. Pupils of eyes <i>dilated</i> and insensible to light	Pupils natural, sometimes insensible to light	Pupils <i>much contracted</i> and insensible to light	Pupils dilated and contracted alternately, not insensible to light



by Opium poisoning (page 63), and by Drunkenness (page 64).

## SUNSTROKE

Occurs usually in the East and West Indies, and is caused by continued exposure to the sun. It may commence in two ways : (1) with giddiness, drowsiness, intense headache, hot dry skin, and sometimes purging and vomiting, followed by insensibility with 'snoring' or 'snorting' breathing ; or, (2) sudden loss of consciousness, with 'snorting' breathing and convulsions. Its course in both cases is rapid. Vomiting is a bad sign. An attack may prove fatal in from twenty minutes to twelve hours ; but, if not fatal, will run its course in from five to eight days. It is not absolutely necessary that the patient should be exposed to the direct rays of the sun to produce these effects. Exposure to excessive heat in a sheltered place, such as the stokehole, will bring them on, and these may be perhaps more fittingly called Heat-strokes. It is characteristic of both of these forms that the temperature should be abnormally high, sometimes rising to  $108^{\circ}$ , and there is also a frequent desire to pass water.

*Treatment.*—Send your patient at once into the coolest place that you can find, get his head shaved, pour cold water over the head, and dash it smartly and frequently over the head, neck, and chest ; and,

if he can swallow, give 1 oz. of Castor oil immediately, repeating the dose, until the bowels are freely and thoroughly relieved, four or five times; keep him quiet and on slop diet, and, after he returns to duty, see that his head is always covered when on deck. The Quinine mixture (Recipe No. 9) may be given for a few days.

There is a form of Heat-stroke simulating the above, due to exhaustion and heat combined. In this variety the pulse is weak and the temperature normal, and all that is required is a little stimulant such as brandy-and-water, or a dose of Aromatic Spirits of Ammonia.

## PALSY

Loss of power in arms, legs, bladder, and, in fact, any part of the body, occurring as a consequence of many other diseases.

You can do nothing by active medicine, but it is your duty to see that the patient is kept as clean as possible, so as to avoid bedsores, that his bowels are regularly relieved, and that his food is good. No stimulants are necessary. Ask him if he passes urine regularly. If none passes for twenty hours, and a warm bath fails to relieve him, you must use the catheter (page 141).

## DELIRIUM TREMENS

This disease is caused by excessive drinking. It is characterised by inability to sleep, want of appetite, great restlessness, and delirium of various kinds. The patient imagines he sees all kinds of horrible things—cats, toads, devils, &c. ; he is always looking out for imaginary enemies, and talks incessantly. His whole body trembles, his eyes are wild, face pale, pulse small and quick. There is usually no headache, and the skin and tongue are moist. The disease is not often fatal, and if a refreshing sleep can be obtained recovery soon ensues.

*Treatment.*—The first thing is to get a free action of the bowels. Give a large Black draught, and repeat it in six hours if necessary. The next thing is to procure sleep. For this purpose there is nothing better than the Bromide of Ammonium ; give 20 grains, dissolved in water, every two hours, and it will in most cases have the desired effect after a few doses ; it is far safer than Opium. If it should not succeed, and if the man is very violent, an Opium pill may be given at night and repeated in two hours if necessary. Keep up the strength with beef-tea or soups given at short intervals, and allow a few ounces of wine or brandy per day. Keep a constant watch or he may commit suicide.



## INFLAMMATION OF THE BRAIN

May be brought on by injuries to the head, by exposure to the sun, or by over-excitement. It is necessary to distinguish it from Delirium Tremens, as the treatment is not the same. There is always severe headache and extreme sensibility to light. The pulse is quick and hard, the tongue dry and parched, the face flushed, and the skin hot and dry (compare Delirium Tremens). The delirium is often violent, and sometimes convulsions occur. This state will continue from twelve to forty-eight hours, and, if not relieved, the patient will fall into a state of stupor and die.

*Treatment.*—Keep patient absolutely quiet and away from the light. Shave the head and apply cold brandy-and-water to it ; put the feet in Mustard-and-water. Get the bowels open at once by 5 grains of Calomel followed by a strong Black draught. Give nothing but slop diet, and no stimulants at first. Should signs of sinking come on, put a Mustard plaster to the nape of the neck, and give the Stimulant mixture (Recipe No. 8) every hour or two, with small quantities of wine.

## SCURVY

Swollen and spongy gums, dark spots and blue blotches, like bruises, about the legs, and a brawny

hardness about the calves of the legs and under-parts of the thighs, are the outward and visible signs of this disease.

Double the man's daily allowance of lime-juice, and give him any kind of vegetables, preserved or otherwise, that you have on board, with a liberal allowance of pickles, beer, or wine. Give also the Quinine mixture (Recipe No. 9) three times a day, and wash out the mouth with weak Crimson fluid and water.

If the provisions of the Merchant Shipping Act, 1894, be faithfully carried out, Scurvy will soon be an unknown disease in the merchant navy of this country; and if the article in this book headed 'Prevention of Disease' (especially the part dealing with food) be strictly followed, no serious outbreak of Scurvy need be feared by the captain of any ship.

## RHEUMATISM

Rheumatism may be caused by exposure to cold and wet, or may be the result of Pox or Clap. No description of this disease is needed, but it is sometimes so severe as to render the patient quite helpless, and is then called Acute Rheumatism, which lasts from fourteen to twenty days.

If a man be attacked with this last form of the disease, keep him very warm and wrap up the joints affected in flannel. Get the bowels open, and, if

there is very much pain, give him 10 grains of Dover's powder every night and the Saline mixture (Recipe No. 1) three times a day. Salicylate of Soda is an excellent remedy for Rheumatism. It must be given in 15-grain doses, dissolved in a little water, every four hours. An ounce of lime-juice given every four hours, with an Opium pill at night, often does good. You must move the patient very gently indeed, and meddle with his limbs in doing so as little as possible, for the pain of a rheumatic joint, when roughly handled, is horrible to bear. During recovery give the Quinine mixture three times a day, and rub the affected parts with Opodeldoc or Turpentine liniment.

For the more chronic forms of Rheumatism and for that following Clap, mix 5 grains of Iodide of Potassium with each dose of the Saline mixture, and give it three times a day. The swelling of the joints may often be removed by painting with strong solution of Iodine. For Lumbago, or pain in the back, open the bowels well, and apply a Mustard leaf or Turpentine fomentation to the small of the back. Ten grains of Dover's powder or an Opium pill may be given at night to procure sleep, and the Iodide of Potassium mixture (5 grains) three times a day.

Rheumatism is, however, often very obstinate, and more sailors are permanently disabled year by year from this than from any other disease.



The provisions of the Merchant Shipping Act, 1894, require all sleeping places to be dry and well ventilated, and will, with dry clothes and dry bedding, *prevent* more Rheumatism than any captain, mate, or doctor can possibly cure.

## ITCH

This disease is caused by dirty habits as to clothes and person.

The spots, which are sometimes like small bladders of water, usually commence between the fingers, but soon spread indifferently over any part of the body, particularly the arms, legs, and buttocks.

After the patient has washed well with soft soap and warm water, make him smear all parts of the skin affected with the Sulphur ointment, and keep him in a greasy state until all sense of itching or a desire to scratch has passed away.

The man should, as far as is practicable, lie apart from the rest of the crew. Burn all his bedding and greasy clothes when he is well, if you can afford to do so, as you may thereby save a round of the disease among your hands.

## LICE

Lice may attack the head, the body, or the scrotum. When confined to the scrotum the disease goes by the name of Crabs.

*Treatment.*—Body lice may be destroyed by warm baths and by smearing over the surface the White Precipitate ointment. The clothes should be boiled or destroyed. Lice in the head must be treated by cutting the hair short, and rubbing in the White Precipitate ointment. The nits or eggs may be got rid of by washing with vinegar and water. The Mercurial or Blue ointment is a well-known remedy for Crabs. The White Precipitate ointment, or White Precipitate powder sprinkled over the parts, will do equally well.

### SHINGLES (HERPES ZOSTER)

This is also called Tetter, and affects one side of the body, usually the chest. At first the skin is felt to be tender, then little red points are seen arranged in groups, which soon become covered with clear vesicles from the size of a pin's head to a pea. These dry up into thick scabs, which fall off in a few days. This disease lasts altogether about ten days, and is often attended with a burning pain and some degree of fever.

*Treatment.*—Dust the part over with flour or starch powder, and cover it with cotton-wool. Give the Quinine mixture (Recipe No. 9) three times a day.

## NETTLE RASH (URTICARIA)

This is an eruption of little wheals, resembling those caused by the sting of a nettle, and is attended by intense itching and a burning tingling sensation. It is due to some derangement of the stomach, caused by unwholesome food, particularly shell-fish, and may last from a few hours to a few days.

*Treatment.*—Give an emetic of 20 grains of Ipecacuanha followed by a few doses of the Stomachic mixture (Recipe No. 6) every four hours. Also bathe the parts with the Soothing lotion (Recipe No. 15).

## PRICKLY HEAT (A FORM OF LICHEN)

Consists of minute red pimples, either distinct or arranged in clusters, and is accompanied by severe itching. It is caused by sudden change from a cold to a hot temperature, and soon subsides.

*Treatment.*—Dust the parts with flour or powdered starch, and relieve the itching by applying the Carbolic-acid lotion (Recipe No. 16).

## ECZEMA

This is a very common skin disease, and is characterised by a portion of the skin becoming red and inflamed, and covered with very minute vesicles,



which burst and discharge a thin fluid that dries into crusts on the skin. There is great irritation of the skin and a desire to scratch. It is sometimes caused by excessive heat, but there is generally a constitutional tendency to it.

*Treatment.*—Commence by giving a dose of Calomel (2 grains) followed by  $\frac{1}{2}$  oz. of Epsom salts in the morning. Then give the Saline mixture (Recipe No. 1) three times a day, or, if the patient be weakly, the Quinine mixture (No. 9) twice a day. Locally, apply the Soothing lotion (No. 15) on a piece of lint.

## RINGWORM

This is an affection of either the skin, scalp, or chin, and is due to the growth of a fungus. It is usually of a ring shape. At first there is redness of the skin, which becomes covered with white powdery scales. The hairs then become brittle and break off, leaving, if on the head or beard, a bald place.

*Treatment.*—Rub some White Precipitate ointment into the patches, or apply Carbolic oil. It must be remembered this disease is contagious.

## FAVUS

This is a variety of Ringworm of the head, and is also caused by a fungus. It is known by dry sulphur-yellow cups, resembling a piece of honey-

comb, which destroy the hair, leaving bald patches. It is accompanied by a peculiar smell resembling that of mice. It is very common amongst Russian and Polish Jews and Italians, and is very contagious.

*Treatment.*—Shave the head and put on poultices till the crusts come off, then apply Carbolic oil or lotion or White Precipitate ointment.

## SURGICAL DISEASES

### VENEREAL DISEASES

THESE diseases, which are the bane of the mercantile marine service, may often be prevented by directing the men (if they go astray) to wash the parts with a lotion of  $\frac{1}{2}$  drachm of Crimson fluid to  $\frac{1}{2}$  pint of water, and use an injection of the same as soon as they come on board.

They include :—

- (1) External Clap.
- (2) Gonorrhœa or Clap.
- (3) Chafes.
- (4) Chancre.
- (5) Bubo.

There are also other complaints which may follow at a later period. Swelled testicle often follows clap ; spots and ulcers on the skin, and sore throat, often follow chancre.

(1) EXTERNAL CLAP.—This is a common disease with men who have long foreskins. It arises from uncleanness. Dirt collects under the foreskin and irritates the glans penis or nut.



A thick discharge comes from under the foreskin, which is swollen and drawn back with difficulty. The nut is red and swollen, but there is no ulcer.

The foreskin must be well pulled back, and it, as well as the nut, washed with warm water. Both must then be swabbed with the Caustic lotion (Recipe No. 13). A piece of Boric lint should then be placed between the nut and foreskin, and the foreskin drawn forward into its proper place.

Attention to cleanliness for a few days, with repetition, if necessary, of the swabbing, will effect speedy cure.

(2) CLAP.—This disease generally appears from two days to a week after connection with a foul woman.

*Symptoms.*—There is itching at the end of the passage through which the urine flows; the nut also swells, and its skin has a red shiny look: there is a feeling of heat and smarting when passing water, which soon amounts to scalding, and sometimes causes great pain. The stream of urine is twisted and broken, and in bad cases may stop altogether. Then follows a greenish-yellow discharge, at first thin, but afterwards thick and mattery. There is also a sense of itching along the under-surface of the yard in the direction of the vent, and the patient is often troubled by painful erections at night. If the foreskin be long, and the discharge from the passage allowed to collect underneath, the foreskin

swells, cannot be drawn back, and external clap, as well as ordinary clap, appears.

*Treatment.*—Keep the patient on low diet, and let him drink freely of Barley-water, toast and water, or Linseed-tea. Give a Purging pill, followed by a dose of Epsom salts, which may be repeated every other morning. When the symptoms first appear, if there is only a little itching with a slight discharge and no scalding, an injection of  $\frac{1}{2}$  drachm of Crimson fluid, 1 drachm of Laudanum, and  $\frac{1}{2}$  pint of water, may be used frequently, and this may cut it short. Where, however, there is much inflammation and scalding, leave off the injection and give the Saline mixture (Recipe No. 1), with 15 grains of Bromide of Ammonium added to each dose, three times a day. Let the yard be soaked frequently in hot water, and support it with a handkerchief or a triangular bandage fastened to the waist. When the inflammation is subdued and the scalding has ceased, the injection of Sulphate of Zinc (Recipe No. 18) may be used night and morning, and, should the discharge still continue, the Clap mixture (Recipe No. 5) should be given three times a day. If, after some weeks, a thin watery discharge, called a gleet, is left, use an injection of 12 grains of Sulphate of Zinc to 6 oz. of water twice a day, and give, instead of the Clap mixture, 20 drops of Tincture of Steel in 1 oz. of water three times a day.

*How to Use the Injection.*—A squirt is to be filled with the injection, the end of this squirt put into the

passage as far as it will go, and the injection then slowly and steadily squirted into the yard. When the squirt is taken away, the passage should be closed by the finger and thumb for a few seconds to keep in the injection.

#### LESSER DISORDERS WHICH MAY FOLLOW CLAP

**ERECTIONS.**—The yard should be soaked in water as hot as can be borne for twenty minutes before turning in. If the erections occur in spite of this precaution, the pain is relieved by sitting on cold metal, or sluicing the yard well with cold water, and by giving a double dose of the Soothing mixture (Recipe No. 4) every night.

**STOPPAGE OF URINE.**—See page 140.

**SWELLED TESTICLE.**—The patient has pain and a sense of weight in the testicle, and pain up the cord. The testicle soon increases to two or three times its natural size, and becomes very tender. There is also a feeling of sickness, and of pain in the loins, with furred tongue, confined bowels, and general fever.

*Treatment.*—A good purge, and the Soothing mixture (No. 4) three times a day. The testicle must be well kept up by a bandage or handkerchief, and the patient must, if possible, knock off work, as rest is very important. Make a number of small pricks with the point of a lancet, or abscess knife, over the swelling, just deep enough to penetrate the skin and draw blood. Then apply hot fomentations



or a hot Linseed-meal poultice, with which a teaspoonful of Laudanum should be mixed. Warmth is generally preferred to cold; but if cold appear to give more relief, apply a lotion made with Goulard extract and Laudanum (Recipe No. 15). Barley-water, Linseed-tea, or toast and water should be given. A bandage to keep up the testicle should be worn for two or three months.

(3) CHAFES.—These are sores on the surface, generally caused by dirt. They mostly appear in the groove between the foreskin and the nut, are of small size, and easily cured.

*Treatment.*—Wash well with warm water, use the Caustic lotion (Recipe No. 13), and apply dry Boric lint.

(4) CHANCER.—This begins as a small pimple, which itches a good deal; a watery head then forms, which bursts and leaves a sore. Chancres may be hard or soft. The hard chancre has a gristly edge, and is best treated, and must be kept constantly wetted, with Black wash. The soft chancre only requires to be kept clean, and touched occasionally with Caustic. A little Iodoform dusted over the part often hastens the cure. The bowels should be kept open by an occasional Blue pill.

Soft chancres require no particular medicine, but the true hard chancre, although it will probably heal without mercury, will often be followed by secondary symptoms. To avoid this, if possible, it will be

advisable to give 2 grains of Calomel with half an Opium pill, night and morning for some weeks. If this should cause soreness of the gums, discontinue its use for a time, and give the man a dose of Epsom salts, and wash out the mouth with the Alum gargle (Recipe No. 12). When the soreness has gone, the Calomel and Opium may be given again once a day. A medical man should be seen at the first opportunity.

Chancres are often followed by sore throat, spots on the skin, pains in and swellings on the bones, and ulcers. These are called secondary symptoms, and show that the disease has become constitutional.

Give all such cases 5 grains of Iodide of Potassium in a little water three times a day for several weeks, let them wash out their throats with the gargle (Recipe No. 12), and dress the ulcers carefully with Vaseline. Give them also a double allowance of lime-juice daily, *to prevent the great tendency to scurvy that exists in all these patients.*

(5) BUBO.—A swelling in the groin, which becomes red, softens, and, if left to itself, bursts, and discharges matter by a small hole.

*Treatment.*—Hot Linseed-meal poultices and rest. When the skin becomes very thin, the bubo may be opened. This should be done by lancing the swelling *across, not lengthways*; the poultice should be continued for two or three days afterwards, and should be followed by Boric lint and water dressing or Carbolic-acid lotion. The bowels must be kept open

with occasional purgatives, and after the bubo has burst, or been opened, you should help on the man's strength by good food and a small quantity of wine, beer, or grog.

## RUPTURE

This is a common affection among sailors, on account of the violent exertions undergone in hauling at ropes, reefing, &c.

A swelling, at first small, is seen in the groin, which disappears when the man lies down, and returns when he stands up or coughs; there is little pain, but a feeling of dragging at the lower part of the body. If neglected, the swelling is liable to be nipped by the walls of the passage through which it has come. The channel of the bowel is then closed, the swelling cannot be pushed back into the belly, and is then said to be strangulated. In such a case the swelling in the groin is elastic, and more or less painful to the touch. The patient at first has pain in the bowels, which are obstinately confined; after a short time he vomits, and eventually brings up excrement, when his condition is, of course, very dangerous.

*Treatment.*—Give the man from 30 to 40 drops of Laudanum, put him in a warm bath at a temperature of 100° Fahr., and keep the water at that temperature.



When the patient feels faint from the heat of the bath, the swelling is to be pressed very gently and steadily upwards, always following the direction in which it has come down.

Be careful not to use too much force, as by so doing the bowel may be much injured. The attempt to put it back should not be continued for more than twenty minutes or half an hour.

The patient must now be taken out of the bath, wiped dry, and put to bed. If the above treatment has not succeeded, and snow or ice be handy, a bladder or oil-silk bag filled with either is to be kept for some hours on the swelling, and often, under the constant application of cold, the swelling is so reduced that the bowel is easily pushed back.

When the swelling has been returned, a large pad of lint should be placed over the spot and kept there by a figure-of-8 bandage, passed round the body, above the hips, and round the upper part of the thigh (see fig. 12, page 27).

Trusses are now included in the list of medical stores, and may therefore be applied at once. A truss consists of a pad, and an elastic band of steel passing round the body. To apply it properly the patient must lie on his back, and when the swelling has been returned the pad should be placed over it, and the band carried round the body. The leather belt at the other end of the band is then buttoned to the front of the pad, and a second strap, which is

attached to the middle of the truss behind, is brought forward under the fork, and attached to another button on the front of the pad. This keeps it in its place. It is important that the truss should fit well, and after being applied it should be tested by the man sitting on the edge of a bench and coughing, to try if the swelling is kept up.

Should the rupture unfortunately become strangulated, nothing can be done except by an operation, and if surgical assistance cannot be obtained in time the patient will die. The only thing to do is to relieve the pain by an Opium pill or 15 drops of Laudanum every four hours, and to endeavour to relieve the bowels by an enema of  $1\frac{1}{2}$  pint of warm soap-and-water with 1 oz. of Castor oil and 1 table-spoonful of Turpentine added. Give no solid food, but keep up the strength with beef-tea, eggs, and brandy.

### STOPPAGE OF URINE

That is, when a man is unable to pass his water. It is caused :—

(1) By holding the water too long after a desire to pass it, or after drinking heavily.

(2) By Stricture.

(3) By Clap.

(4) By an injury to the passage, and by falling on or striking the crutch.

(5) By long-continued exposure to wet or cold.

*Treatment.*—Give the patient 30 or 40 drops of Laudanum, place him in a bath at 100° Fahr., and keep the water at that temperature for a quarter of an hour. The patient will often pass a little water in the bath, which will give great relief. If, however, these means fail, try to introduce a catheter gently into the bladder.

*How to introduce a Catheter.*—Make the patient stand up against a bulkhead, and sit down in front of him. Oil the instrument, and hold it like a pen between the fingers of your right hand. The yard of the patient must be held in your left hand, and the instrument gently put into the passage, and pushed steadily on into the bladder. The instrument must be held loosely between the fingers, and *on no account must any force be used.* If any obstacle be met with, overcome it by steady and moderate pressure, *and not by sudden force.* The entrance of the instrument into the bladder is at once shown by a flow of urine. If you do not succeed after a quarter of an hour's trial, leave off for a time. A dose of Epsom salts should be given to clear out the bowels, and afterwards another dose of Laudanum. If this fail, the warm bath should be repeated, and the stricture will generally yield a little, allowing, at all events, a small quantity of urine to dribble away.

Sometimes, after severe straining, the patient feels that something has given way suddenly, and is



immediately relieved. This is a very dangerous sign, for it indicates that the passage has burst behind the stricture, and that the urine has escaped into the neighbouring parts. In a few hours the yard begins to swell, the skin becomes tight and shiny, and the patient complains of a burning pain in the crutch. He will be able to pass water, but the relief is only of a temporary nature.

It is necessary in such a case to push an abscess knife deeply into the middle of the fork, behind the purse, *taking care to keep exactly in the middle line*, in order to give escape to the urine. Small cuts must also be made on each side of the purse, to let out the water there collected. Keep up the strength of your patient with good food and wine or grog, and see that the wounds are well washed with warm Carbolic-acid lotion at least three times a day.

### DRIBBLING OF URINE

May be caused :—

- (1) By Piles.
- (2) By Stricture.
- (3) By a Stone in the Bladder.

In children it may be caused by worms in the lower part of the bowels.

*Treatment.*—Little can be done at sea in the way of treatment. If the patient be a lad, and he wets

his bed-clothes at night, let him be roused at the end of every watch and made to pass water. In older patients, no satisfactory treatment can be adopted by a non-professional man, except by giving a dose of the Soothing mixture (Recipe No. 4) now and then at bedtime.

## BOILS

These are very common among sailors, and are generally caused by constant irritation of skin from salt water—hence the term ‘salt-water boils.’

*Treatment.*—When the boil is beginning to form, rub it with Caustic, and, if very painful, put over it lint dipped in a weak mixture of rum and water. Linseed-meal poultices should afterwards be used, and in time the boil will soften, the core come out, and the hole close. You will help the healing by using the Boric-acid ointment.

If the patient be of full habit, give him a Black draught twice a week.

WHITLOW.—Inflammation of the fingers, with great pain and swelling. The pain is deep and throbbing, and the skin red, swollen, and shiny. It is most frequently caused by running a splinter of wood under the nail or into the finger.

*Treatment.*—Whitlows should be treated early, for the fingers may be lost by extension of the

inflammation to the deep parts. Soak the part in hot water frequently, and as soon as the back of the finger or hand is red, swollen, and puffy, make a deep cut lengthways along the *middle* of the finger *in front*, to allow the escape of matter. A *Linseed-meal* poultice must then be applied and changed three times a day, but, in spite of all care, the first bone of the finger will sometimes be killed.

## ULCERS

These are of various kinds.

HEALTHY ULCERS are of a bright-red colour, are covered with small red growths, and discharge a thick yellowish matter.

*Treatment.*—Lint dipped in the Carbolic-acid lotion and kept constantly moist.

INFLAMED ULCERS.—These are very painful; the surrounding parts are hot and red, the discharge is small in quantity, of a dark colour, and has sometimes a foul smell.

*Treatment.*—The patient must knock off work, and a Linseed poultice, or the Soothing lotion (Recipe No. 15) must be constantly applied on a rag. If there is much smell, a little Iodoform should be dusted over them. The bowels should be opened by a dose of Epsom salts.

ULCERS DEPENDING UPON ENLARGED VEINS.—This variety is always found on the legs. The skin



near the ulcer is of a purplish-brown, and beneath it are seen the swollen knotty veins. The edges of the ulcer are hard and thick, the surface smooth and dead-looking, and there is but little discharge. These ulcers may open one of the enlarged veins and cause serious bleeding. If this occur, let your patient lie down, with his leg raised, and while he is in this position apply steady pressure on the bleeding spot, and keep up the leg and maintain the pressure until the blood ceases to flow.

Dress the ulcer with Goulard lotion, and bandage the affected limb as smoothly and evenly as possible. Every person with enlarged veins should wear an elastic bandage. Vaseline or Salvo Petrolia is also a useful application for ulcers. It must be spread on lint. Boric-acid ointment is another excellent application for ulcers that show no tendency to heal. Varicose or enlarged veins, if treated at the commencement, may often be cured by Witch Hazel. Give the Witch Hazel mixture (Recipe No. 10) three times a day, and lay a piece of lint dipped in the lotion (Recipe No. 11) along the course of the vein, and keep it wet with this.

## PILES

A feeling of itching, heat, and swelling about the vent, and a straining after stool as if there were something more to come, are the symptoms.

Piles may be inside or outside, bleeding or blind. Piles within the vent often bleed, but those outside give no trouble if kept perfectly clean.

The inward piles often come down when the bowels are moved, especially if the patient has had a hard motion. Sometimes a pile is caught by the muscle which closes the vent, and, if thus caught, cannot get up again after the action of the bowels. If this occur, a bluish swelling is seen protruding from the vent, which is painful, hot, and tender. This swelling should be at once returned, which is easily done by smearing it with Olive oil, and pushing it up gently with the forefinger.

*Treatment.*—The bowels should be kept open by a teaspoonful of Sulphur and Treacle given every morning, and the parts must be carefully washed after every action of the bowels. If the piles can be reached, smear over them with the forefinger a little of the ointment of Galls and Opium. Cleanliness is very important. If the piles bleed, give an injection of the Witch Hazel lotion (Recipe No. 11), and administer the Witch Hazel mixture three times a day. It is an excellent remedy.

### GUM-BOIL

The pain is very severe, especially at night. A small cut should be carefully made into the swelling with an abscess knife, and instant relief will follow the escape of matter.

## BLEEDING FROM THE NOSE

This is Nature's remedy for the cure of headache, and should not be interfered with. If, however, it be very severe, cold applied to the nose and to the back of the neck will be all-sufficient, except in very obstinate cases, when the nostrils must be very gently and carefully plugged with lint, rag, or a piece of sponge.

## DISEASES OF THE EYE

Ophthalmia is generally caused by cold. There is slight redness of the surface of the eye, with a prickly sensation and a slight discharge of yellow matter. This may be cured by frequently bathing the eye with the 'Soothing lotion' (Recipe No. 15) or the Sulphate-of-Zinc lotion (Recipe No. 18). If the case be more severe, and there is pain and intolerance of light, the patient should be kept in the dark or the eyes covered with a shade, and the Caustic lotion (Recipe No. 13), mixed with an equal quantity of water, should be applied three or four times a day. A drop of Laudanum put into the eye occasionally will often prove beneficial.

A severe form of ophthalmia is often caused by the contact of the discharge of Clap with the eye. The inflammation in this case is often severe, and



should be treated promptly. The patient should be kept in a dark room, and, if possible, a dozen leeches should be applied to the temple. The eyes should be frequently bathed with warm water containing  $\frac{1}{2}$  oz. of Laudanum to the pint, and 2 or 3 drops of the Caustic lotion should be placed in the eye three times a day. An Opium pill may be given every night, and a dose of Epsom salts in the morning.

### FOREIGN BODIES IN THE EYE

A piece of grit, coal, or dust will sometimes lodge in the eye and cause great irritation and a copious flow of tears. If the substance is under the upper eyelid, seat the patient in a chair and place a match or bodkin over the lid; take hold of the eyelashes and turn the lid upwards. Then remove the substance, either with the eye-spud or a piece of twisted paper. If under the lower lid, simply pull it down and extract as before. If quicklime should get into the eye, let it be washed out with a little vinegar or lime-juice, and afterwards soothe the irritation by a few drops of Castor oil.

### FOREIGN BODIES IN THE EAR

Sometimes an earwig or other small insect will find its way into the ear and cause much irritation. If it can be seen, it may be removed with a hairpin

or the eye-spud. If not, do not poke the ear about, but try to float it out by syringing with warm water, which will often have the effect. A little oil may be dropped in first, if it is an insect, in order to kill it, then syringe.

### FACE-ACHE

Is often caused by a decayed tooth. When this is the case, the tooth must be taken out as soon as possible. In the meantime a piece of cotton-wool dipped in Creosote or tar must be put in the decayed portion. Face-ache is sometimes caused by cold, and should be cured by the application of hot Linseed or bran poultices with a little Laudanum sprinkled over them. A dose of aperient medicine should be given at night, and the Quinine mixture (Recipe No. 9) three times a day. Salicine in 15-grain doses three times a day is often useful in Tic-douloureux and other neuralgic affections, but it is not now contained in the medicine-chest.

*Scale of Medicines and Medical Stores issued by the Board of Trade in pursuance of the Merchant Shipping Act, 1894.*

Preparations from British Pharmacopœia, 1898	Names of Medicines, Medicaments, &c.	Proportion for Ships carrying the under-mentioned number of Men and Boys (for 12 months)			
		10 and under	11 to 20 inclusive	21 to 40 inclusive	41 and upwards
This column is added for the use of Druggists supplying the Medicines indicated. All bottles to be stoppered, and the official dose for an adult to be stated on the label. All Medicines indicated thus (*) to be marked with a Red Poison Label	All Medicines bearing a Red Poison Label must be used with caution, and if given internally should be carefully measured				
Sp. Ammon. Aromat. . . . .	Alum . . . . .	2 ozs.	4 ozs.	6 ozs.	8 ozs.
Copaiba . . . . .	Aromatic Spirits of Ammonia . . . . .	4 "	6 "	8 "	12 "
	Balsam of Copaiba . . . . .	4 "	8 "	12 "	16 "
	Bicarbonate of Potash . . . . .	4 "	6 "	8 "	10 "
	Bicarbonate of Soda . . . . .	8 "	12 "	16 "	20 "
Mist. Sennæ Co. . . . .	Black Draught . . . . .	2 pints	4 pints	6 pints	8 pints
Lotio Hydrarg. Nigra . . . . .	Black Wash . . . . .	1 pint	2 "	2 "	3 "
Liq. Epispasticus . . . . .	*Blistering Fluid . . . . .	1 oz.	1 oz.	2 ozs.	2 ozs.
Ammonii Bromidum . . . . .	Bromide of Ammonium . . . . .	2 ozs.	4 ozs.	6 "	8 "
Hyd. Subchloridum . . . . .	*Calomel . . . . .	1 oz.	1 oz.	1 oz.	1 oz.
	Camphor . . . . .	2 ozs.	4 ozs.	6 ozs.	8 ozs.
Aeidum Carbolicum Liquefactum . . . . .	*Carbolic Acid, liquefied . . . . .	4 "	6 "	8 "	12 "
A liquid containing not less than 80 per cent. of free Carbolic or Cresylic Acid . . . . .	*Carbolic Acid or other disinfectant of approved quality . . . . .	1 gal.	2 gals.	4 gals.	4 gals.
Linimentum Calcis . . . . .	Carron Oil . . . . .	1 pint	1 pint	2 pints	3 pints
	Castor Oil . . . . .	2 lbs.	4 lbs.	6 lbs.	8 lbs.
Argenti Nitras Induratus . . . . .	*Caustic . . . . .	½ oz.	½ oz.	1 oz.	1 oz.
Tinet. Chlorof. et Morph. Comp. . . . .	*Compound Tincture of Chloroform and Morphine (To be used in place of Chlorodyne) . . . . .	1 "	2 ozs.	3 ozs.	4 ozs.
Cresotum . . . . .	Cresote . . . . .	½ oz.	1 oz.	1 oz.	1 oz.
Liq. Potass. Permang. . . . .	*Crimson Fluid . . . . .	½ pint	1 pint	1 pint	2 pints
Acid. Sulph. Arom. . . . .	Elixir of Vitriol . . . . .	2 ozs.	4 ozs.	6 ozs.	8 ozs.
	Epsom Salts . . . . .	3 lbs.	6 lbs.	10 lbs.	12 lbs.
Tr. Zinglb. Fortior, B.P. '85 . . . . .	Essence of Ginger . . . . .	1 oz.	2 ozs.	3 ozs.	4 ozs.
Ess. Mentb. Pip., B.P. '85 . . . . .	" Peppermint . . . . .	1 "	2 "	3 "	4 "
Tr. Benzoin. Comp. . . . .	Friar's Balsam . . . . .	4 ozs.	6 "	8 "	10 "
Liq. Plumbi Subacet. Fort . . . . .	*Goulard's Extract . . . . .	1 oz.	2 "	4 "	6 "
Potass. Iodid. . . . .	Iodide of Potassium . . . . .	2 ozs.	2 "	3 "	4 "
Liq. Iodi Fortis . . . . .	*Iodine—Strong Solution of . . . . .	1 oz.	2 "	3 "	4 "
	*Iodoform . . . . .	6 drs.	8 drs.	10 drs.	12 drs.
Tinet. Opii . . . . .	*Laudanum . . . . .	4 ozs.	6 ozs.	8 ozs.	10 ozs.
Add 2 drs. of powdered camphor to each pound . . . . .	Linced Meal . . . . .	7 lbs.	14 lbs.	20 lbs.	28 lbs.
Charta Sinapis . . . . .	Mustard Leaves (in tins) . . . . .	12	24	24	24
	Nitrate of Potash . . . . .	4 ozs.	6 ozs.	8 ozs.	10 ozs.
Lin. Opii . . . . .	Olive Oil . . . . .	4 "	8 "	12 "	16 "
Tinct. Camph. Comp. . . . .	*Opodeldoc . . . . .	6 "	8 "	10 "	12 "
	*Paregoric . . . . .	4 "	6 "	8 "	10 "
	Pills, Blue . . . . .	4 doz.	6 doz.	8 doz.	10 doz.
	" Cough . . . . .	4 "	4 "	6 "	8 "
	" Opium . . . . .	2 "	2 "	3 "	4 "
	" Purging . . . . .	6 "	12 "	16 "	20 "
All pills to be coated with gelatine					
<div> <div>Pil. Hydrarg. . . . .</div> <div>4 gr.</div> </div> <div> <div>" Ipecac. c. Scilla . . . . .</div> <div>4 gr.</div> </div> <div> <div>" Sapon. Comp. . . . .</div> <div>2 gr.</div> </div> <div> <div>" Coloc. Comp. . . . .</div> <div>4 gr.</div> </div>					

\* As antiseptic and deodorising agents for common use. Samples of the disinfectants supplied will be occasionally taken for analysis, to determine whether they fulfil the requirements of the Board of Trade. Izal, Neosote, Bromo Sanitary Fluid, Climax Sanitary Fluid, St. Bode's Disinfectant Fluid, and Formalin are approved of by the Board of Trade as equal to the Carbolic acid.

† For purifying drinking water when necessary.



Scale of Medicines and Medical Stores issued by the Board of Trade—(cont.)

Preparations from British Pharmacopœia, 1898  This column is added for the use of Druggists supplying the Medicines indicated. All bottles to be stoppered, and the official dose for an adult to be stated on the label. All medicines indicated thus (*) to be marked with a Red Poison Label	Names of Medicines, Medicaments, &c.  All Medicines bearing a Red Poison Label must be used with caution, and if given internally should be carefully measured	Proportion for Ships carrying the under-mentioned number of Men and Boys (for 12 months)			
		10 and under	11 to 20 inclusive	21 to 40 inclusive	41 and upwards
Pulv. Ipecac. Comp. . . . .	Powder, Dover's . . . .	1 oz.	2 ozs.	3 ozs.	4 ozs.
" " (to be supplied in tins)	" Ipecac. . . . .	1 "	2 "	3 "	4 "
Sodii Salicylus . . . . .	Quinine . . . . .	1 "	2 "	3 "	4 "
Splritus Chloroformi . . . .	Salicylate of Soda . . .	4 ozs.	8 "	12 "	16 "
	Splrit of Chloroform . . .	4 "	6 "	8 "	10 "
	Sulphate of Zinc . . . .	1 oz.	2 "	3 "	4 "
	Sulphur (sublimed) . . .	1 lb.	1 lb.	2 lbs.	3 lbs.
Spt. Aetheris Nitrosi . . . .	Sweet Spirits of Nitre . .	6 ozs.	6 ozs.	8 ozs.	10 ozs.
Acidum Tartaricum . . . .	Tartaric Acid . . . . .	4 "	6 "	8 "	10 "
Tinct. Ferri Perchlor. . . .	Tincture of Steel . . . .	4 "	4 "	6 "	8 "
Lin. Terebinthi . . . . .	Turpentine Liniment . .	8 "	10 "	12 "	16 "
Ext. Hamamelidis Liquidum .	Witch Hazel . . . . .	1 oz.	1 oz.	2 "	2 "

OINTMENTS

Ungt. Acidi Borici . . . . .	Boric Acid . . . . .	4 ozs.	6 ozs.	8 ozs.	10 ozs.
" Gallæ cum Opio . . . .	Galls and Opium . . . .	1 oz.	2 "	3 "	4 "
" Hydrarg. . . . .	Mercurial . . . . .	2 ozs.	2 "	4 "	6 "
" Sulph. . . . .	Sulphur . . . . .	8 "	12 "	16 "	16 "
" Hydrarg. Ammon. . . .	White Precipitate . . .	2 "	2 "	4 "	6 "
Paraffinum Mollè . . . . .	Vaseline or Salvo Petro- lia . . . . .	12 "	12 "	16 "	24 "

For voyages of six months and under, half the quantity of the above medicines may be carried. There is a separate scale for voyages of less than five days from port to port.

Particulars	Scales of Medical Stores and Necessaries	Proportion for Ships carrying the under mentioned number of Men and Boys (for 12 months)			
		10 and under	11 to 20 inclusive	21 to 40 inclusive	41 and upwards
1 grain, 2 grains, &c., must be stamped in English figures and words on each respective weight; the word <i>scruple</i> must not be used at all (the scruple weight being marked 20 grains; the 1 drachm, 1 drachm, and 2 drachm weights must be also marked in English figures and words)	Scales and weights . . .	1 set	1 set	1 set	1 set
	Rubber plaster in tin case . . . . .	1 yd.	2 yds.	3 yds.	4 yds.
	Boric lint . . . . .	1 lb.	1 lb.	1 lb.	1 lb.
	Absorbent cotton-wool . .	1 "	1 "	1 "	1 "
	Double cyanide gauze . .	1 yd.	1 yd.	2 yds.	2 yds.
The surveyors will require all filters to be tested at the Government Laboratory	A 2 gallon Pasteur-Chamberland filter, or other approved filter of like capacity capable of delivering water free from micro organisms	1	1	1	1
	Graduated drop measure . . . . .	1	1	1	1

Treble the quantity above indicated to be taken to all tropical ports. Each drachm is divided into 30 drops.

Particulars	Scales of Medical Stores and Necessaries	Proportion for Ships carrying the under-mentioned number of Men and Boys (for 12 months)			
		10 and under	11 to 20 in- clusive	21 to 40 in- clusive	41 and up- wards
The fluid 2-oz. measure must be marked in <i>ounces</i> and <i>drachms</i> , <i>tablespoonfuls</i> and <i>teaspoonfuls</i>	Graduated 2-oz. mea- sure	1	1	1	1
	6-oz. bottles . . . .	1 doz.	1 doz.	2 doz.	2 doz.
	Corks for bottles . . .	1 "	2 "	3 "	4 "
	Scissors . . . . .	1 pair	1 pair	1 pair	1 pair
	Syringes, $\frac{1}{2}$ -oz. . . . .	2	2	4	4
	Abscess knife, Paget's .	1	1	1	1
	Eye-spud . . . . .	1	1	1	1
	Bandages . . . . .	3	6	6	6
Leg and arm size . . . . .	Triangular bandages .	2	3	4	4
Triangular bandage, base 48 in., sides 33 in. each	Flannel bandages . .	1	2	3	4
Flannel bandage, 7 yds. long, 6 in. wide	Calico . . . . .	2 yds.	3 yds.	4 yds.	6 yds.
	Flannel . . . . .	2 "	3 "	4 "	6 "
	Needles, in vaseline . .	6	6	6	6
	Tablet of silk, with four sizes	1	1	1	1
	Safety pins . . . . .	3 doz.	3 doz.	3 doz.	3 doz.
	Splints, common . . .	1 set	1 set	1 set	1 set
Printed directions for use . . .	Enema syringes (Hig- ginson's)	1	1	2	2
	Esmarch's Tourniquet (plain, with hooks)	1	1	1	1
	Soft olive-headed ca- theters	3	3	3	3
36-inch single reversible . . .	Trusses . . . . .	1	2	3	3
36-inch double . . . . .	" . . . . .	1	1	1	1
	Sponges, aseptically prepared, in herme- tically sealed bottles containing 1 doz.	1 bott.	1 bott.	1 bott.	1 bott.
	Plaster of Paris band- ages (in tins) pre- pared for use	1 doz.	1 doz.	2 doz.	2 doz.
	Clinical thermometer, self-registering	1	1	1	1
	Camel's hair pencils .	1	1	2	2
	Bed-pan . . . . .	1	1	1	1
	Authorised Book of Directions for Medi- cine Chests ('The Ship Captain's Medi- cal Guide,' latest edition)	1	1	1	1
	Oatmeal . . . . .	4 lbs.	8 lbs.	16 lbs.	24 lbs.
	Arrowroot . . . . .	2 "	4 "	8 "	12 "
	Pearl barley . . . . .	4 "	8 "	16 "	24 "
	Cornflour . . . . .	4 "	8 "	16 "	24 "
	Sago or cercaline . . .	4 "	8 "	16 "	24 "
	Sugar . . . . .	14 "	28 "	42 "	56 "
	Soup and bouilli . . .	6 "	12 "	24 "	36 "
	Boiled mutton . . . .	6 "	12 "	24 "	36 "
	Essence of meat ( $\frac{1}{4}$ -pint)	6 tins	12 tins	24 tins	36 tins
Preserved . . . . .	Desiccated soup . . .	4 lbs.	8 lbs.	16 lbs.	24 lbs.
	Vegetables, dried or compressed	4 "	8 "	16 "	24 "
	Potatoes (if not in scale of provisions)	14 "	28 "	56 "	74 "
	Wine (port) . . . . .	3 botts.	6 botts.	12 botts.	18 botts.
	Brandy . . . . .	2 "	4 "	6 "	8 "

*Emergency Scale of Medicines and Medical Stores issued  
and caused to be published by the Board of Trade  
in pursuance of the Merchant Shipping Act, 1894*

Preparations from British Pharmacopœia, 1898	Names of Medicines, Medicaments, &c.	Proportion for Ships, irrespective of the number of Men carried (for voyages of five days and under from Port to Port)
<p>—</p> <p>This column is added for the use of Druggists supplying the Medicines indicated</p> <p>All bottles to be stoppered, and the official dose for an adult to be stated on the label</p> <p>All Medicines indicated thus (*) to be marked with a Red Poison Label</p> <p>—</p>		
	All Medicines bearing a Red Poison Label must be used with caution, and if given internally should be carefully measured	
Sp. ammon. aromat. .	Aromatic spirits of ammonia.	2 ozs.
Tinctura chloroformi et morphinæ comp.	*Compound tincture of chloroform and morphine. (To be used in lieu of chlorodyne.)	1 oz.
Linimentum calcis .	Carron oil . . .	1 pint
	Castor oil . . .	$\frac{1}{2}$ „
Acidum carbolicum li- quefactum	*Carbolic acid, liquefied	2 ozs.
Tinctura benzoini com- posita	Friar's balsam . .	2 „
Liquor plumbi subace- tatis	*Goulard's extract .	2 „
Tinctura opii . . .	*Laudanum . . .	2 „
Linimentum opii . .	*Opodeldoc . . .	4 „
Pilula colocynthidis composita (4 grs.)	Purgative pills . .	3 „
Paraffinum molle . .	Vaseline or Salvo Petrolia	4 „



Particulars	Scales of Medical Stores and Necessaries	Proportion for Ships, irrespective of the number of Men carried
The fluid 2-oz. measure must be marked in <i>ounces</i> and <i>drachms</i> , <i>tablespoonfuls</i> and <i>teaspoonfuls</i>	Rubber plaster . . .	1 yard
	Boric lint . . . .	$\frac{1}{2}$ lb.
	Absorbent cotton-wool	$\frac{1}{2}$ „
	Graduated drop measure	1
	Graduated 2-oz. measure	1
	6-oz. bottles with corks	6
	1-oz. bottles with corks	6
	Mustard leaves in tin .	1 tin
	Scissors . . . .	1 pair
	Lancet . . . .	1
	Triangular bandages .	2
	Bandages . . . .	6
	Calico . . . .	2 yards
	Splints, common . .	1 set
	Esmarch's tourniquet	1
Base 48 in., sides 32 in. Leg and arm size . . .	Needles in vaseline .	6
	Safety pins . . . .	2 dozen
	Tablet of silk with four sizes	1
	Enema syringe (Higginson's)	1
	Truss . . . .	1
36-in. single reversible . 36-in. double . . . .	Do . . . .	1
	Authorised Book of Directions	1

NOTE.—Ships making voyages of less than 24 hours from port to port have the option of carrying only the small Ambulance hamper of the St. John's Ambulance Association, in lieu of the above Scale.

## DOSES, AND DIRECTIONS FOR USE OF MEDICINES

THE doses of these medicines are calculated for men, so that half the quantity must in all cases be given to patients between ten and sixteen years of age. The names of all *outward* applications are printed in thick black type (as **Alum**, &c.), to distinguish them from medicines that are to be taken internally.

One ounce of liquid is equal to 2 *table-spoonfuls*, and to 8 *tea-spoonfuls*; 1 drachm of liquid is equal to 60 drops.

One drachm of any solid drug is equal to 60 grains; 1 ounce of any solid drug is equal to  $437\frac{1}{2}$  grains.

**Alum.**—One drachm to a pint of water is a useful gargle for a sore throat, and a lotion for cold in the eyes. Powdered alum may be snuffed up the nostrils to stop bleeding at the nose. It may be given in 10-grain doses in cases of bleeding from the lungs or stomach.

AROMATIC SPIRITS OF AMMONIA.—A useful stimulant. (See Recipe No. 8.)

Dose : 20 to 40 drops.

BALSAM OF COPAIBA.—A good remedy for the Clap. (See Recipe No. 5.)

Dose :  $\frac{1}{2}$  to 1 drachm.

BICARBONATE OF POTASH.—A useful saline. (See Recipe No. 1.) Also makes an effervescing drink when mixed with tartaric acid or lime-juice.

Dose : 5 to 30 grains.

BICARBONATE OF SODA.—Useful for indigestion. Thirty grains mixed in a glass of water with 1 oz. of lime-juice or 30 grains of tartaric acid makes a refreshing effervescent drink. (See Recipe No. 6.)

Dose : 5 to 30 grains.

BLACK DRAUGHT.—The best purgative.

Dose : 1 oz.

**Black Wash.**—A lotion for chancres.

**Blistering Fluid.**—Used for producing a blister. It should be applied with a camel's-hair brush, and the part covered with a piece of lint smeared with vaseline.



**BROMIDE OF AMMONIUM.**—Acts as a sedative to the nervous system ; is useful in sleeplessness and in epilepsy. (See Recipe No. 4.)

Dose : 5 to 30 grains.

**CALOMEL.**—A useful aperient medicine acting on the liver. Should be given in the form of pills or mixed with treacle or sugar. Very serviceable in jaundice and malarial fevers. Often given in cases of syphilis to prevent secondary symptoms.

Dose :  $\frac{1}{2}$  to 5 grains. (See the above diseases.)

**CAMPHOR.**—Two ounces to half a pint of whisky or brandy makes spirits of camphor ; very useful in diarrhœa and cholera ; also in cold of the head.

Dose of spirits of camphor : 5 to 20 drops.

**Carbolic Acid (Liquefied).**—Used in making carbolic-acid lotion and carbolic oil. (See Recipes Nos. 16 and 17.)

**Carbolic Acid (Crude).**—To be mixed with water for washing decks, bunks, and all places in which foul smells exist.

One ounce to a quart of water for general disinfecting purposes, and half that quantity for scrubbing clothes or washing the skin will be sufficient.

**Carron Oil.**—An excellent application for burns. It is made by mixing equal parts of lime-water and olive or linseed oil.

**Caustic.**—For external application ; to be used only as directed in this book. (See Recipe No. 13.)

**COMPOUND TINCTURE OF CHLOROFORM AND MORPHINE.**—A useful remedy for diarrhœa and colic. May also be given to allay cough. It is a substitute for chlorodyne, but it is stronger, and must be given in smaller doses.

Dose : 5 to 15 drops.

**CREOSOTE.**—To be applied on a piece of cotton-wool in case of toothache.

**Crimson Fluid.**—A few drops in each gallon of water wanting purification for drinking purposes. Useful also as a gargle for sore throat and as an injection, as directed in this book. It is also used as a disinfectant as directed.

Half to 1 fluid drachm to 6 ozs. of water will be about the proper strength.

**ELIXIR OF VITRIOL.**—Very useful in diarrhœa, cholera, chronic coughs, and night sweatings. Quinine will not dissolve in water without the addition of a few drops. (See Recipes No. 3 and 9.)

Dose : 5 to 20 drops in a wineglassful of water.

**EPSOM SALTS.**—A good purgative when it is necessary to repeat the dose.

Dose : 2 drachms to 1 oz.

**ESSENCE OF GINGER.**—Used for windy colic.  
(See Recipe No. 6.)

Dose : 5 to 10 drops.

**ESSENCE OF PEPPERMINT.**—Useful for flatulence and to flavour other medicine.

Dose : 5 to 10 drops.

**FRIAR'S BALSAM.**—Applied externally to cuts and wounds. Internally, very useful in winter coughs.

Dose : 10 drops to 1 drachm.

**Goulard's Extract.**—A soothing external application used for bruises and inflamed wounds ; also as an eye lotion. (See Recipes Nos. 14 and 15.)

**IODIDE OF POTASSIUM.**—Given for chronic rheumatism and secondary syphilis.

Dose : 5 to 20 grains in 1 oz. of water.

**Iodine**, Strong Solution of.—To be painted over swollen joints after the acute symptoms have subsided. Also very useful when painted on the chest or back in cases of consumption.

**Iodoform.**—Removes the bad smells arising from ulcers and wounds, and assists in healing them. Should be lightly dusted over the parts.

**LAUDANUM.**—Useful to stop diarrhœa, to ease pain, and to procure sleep. In doses larger than those ordered here it is poisonous.

Dose : 5 to 30 drops.



**Linseed Meal.**—For poultices. (See Recipe No. 21.)

**Mustard Leaves** (in Tins).—To be used instead of the old-fashioned mustard poultice, when a counter-irritant is required.

**NITRATE OF POTASH.**—Useful in fevers and to act on the kidneys. (See Recipes Nos. 1 and 2.)  
Dose : 5 to 20 grains.

**Olive Oil.**—To smear over piles in aiding their return, and to paint over burns of the face. (See also Recipe No. 17.) It is also useful in poisoning by Carbolic Acid, Arsenic, or Corrosive Sublimate, when it may be drunk freely.

**Opodeldoc.**—A liniment for rheumatism or sprains. To be well rubbed in.

**PAREGORIC.**—To relieve obstinate coughing in cases of bronchitis and consumption. Also useful in diarrhoea. (See Recipe No. 7.)

Dose : 15 drops to 1 drachm.

**BLUE PILLS.**—To be used as directed in this book.

**COUGH PILLS.**—One to be taken three or four times a day for a troublesome cough.

**OPIUM PILLS.**—These pills must be used cautiously.

PURGING PILLS.—One or two to be taken at night to open the bowels.

DOVER'S POWDER.—To procure rest and sweating. To be used only as directed in this book.

Dose : 5 to 10 grains.

IPECACUANHA.—In acute dysentery and bronchitis. (See Recipe No. 7.)

Dose : 2 to 5 grains as a medicine,  $\frac{1}{2}$  to 1 drachm as an emetic.

QUININE.—This should be weighed out carefully in the quantities directed, kept as powder, and mixed just before drinking in a glass of water with a few drops of Elixir of Vitriol. To be used only as directed in this book.

Dose : 2 to 10 grains, or more.

SALICYLATE OF SODA.—The best remedy for acute rheumatism. Will reduce the temperature in fevers, and act on the liver.

Dose : 10 to 15 grains every four hours.

SPIRITS OF CHLOROFORM.—Is a useful sedative, given in cough and soothing mixtures. If 20 or 30 drops are sprinkled on a handkerchief and applied to the mouth and nose, they immediately relieve pain. (See Recipes Nos. 3 and 8.)

Dose : 10 to 30 drops in water.

**Sulphate of Zinc.**—(See Recipe No. 18.)

Dose : Half a drachm to 1 drachm in a glass of water, to cause vomiting.

**SULPHUR.**—To open the bowels gently, in piles and skin affections. (See also Chapter on Fumigation, page 17.)

Dose : A teaspoonful in a glass of milk, or mixed with treacle, to be taken before breakfast.

**SWEET SPIRITS OF NITRE.**—Used in cough and fever mixtures, and to cause perspiration. (See Recipes Nos. 2 and 7.)

Dose : 30 drops to 1 drachm.

**TARTARIC ACID.**—To be used with Bicarbonate of Soda or Potash in making effervescing draughts. Dissolve half a teaspoonful of Bicarbonate of Soda or Potash in half a tumblerful of cold water, and mix with it 30 grains of Tartaric Acid. Useful in fever and inflammation, and also to check vomiting.

**TINCTURE OF STEEL.**—A good tonic, useful in blood-spitting, bleeding from the bowels, dropsy, and gleet. The best remedy for poorness of blood.

Dose : 10 to 20 drops in a wineglassful of water.

**WITCH HAZEL.**—Applied externally it stops bleeding. Internally it is useful in all kinds of



bleeding. It is the best remedy we have for bleeding piles. (See Recipes Nos. 10 and 11.)

Dose : 5 to 15 drops in water.

**Boric-acid Ointment.**—An excellent ointment for sores and ulcers that will not heal. Spread it sparingly on lint or rag.

**Gall and Opium Ointment.**—Useful for piles. To be smeared over them with the finger.

**Mercurial Ointment (Blue).**—To be used sparingly for crabs.

**Sulphur Ointment.**—Chiefly used to cure the itch. It must be rubbed all over the body.

**White Precipitate Ointment.**—Useful in a number of skin diseases, such as impetigo, ring-worm, lice, &c. Must be used sparingly.

**Vaseline.**—A useful application for wounds and ulcers. It relieves inflamed skin, and may be used in erysipelas. It may be employed instead of oil for smearing catheters before they are used, and will protect instruments from rust.

**Plaster - of - Paris Bandages.**—These are now prepared ready for use. A dry bandage should first be applied to the limb. One of the prepared bandages must have some cold water poured upon

each end of it, so as to moisten it through. The moistened plaster bandage must then be applied smoothly over the dry one, making no reverses. It hardens in the course of a few minutes, and, as it dries, forms a solid hard casing to the limb, and may be used for fractures instead of ordinary splints. It is also a useful application for severe sprains.

**Boric Lint.**—Forms an excellent antiseptic dressing for wounds. It must be used as directed in this book, and may take the place of ordinary lint when there is none of the latter on board.

**Double Cyanide Gauze.**—Another antiseptic dressing. To be used as directed. (See page 31.)

## RECIPES

### 1.—*Saline Mixture*

Bicarbonate of potash . . . . .	2	drachms
Nitrate of potash . . . . .	1	drachm
Water . . . . .	6	oz.

2 tablespoonfuls for a dose.

### 2.—*Fever Mixture*

Nitrate of potash . . . . .	1	drachm
Sweet spirits of nitre . . . . .	3	drachms
Spirits of chloroform . . . . .	1½	drachm
Add water to . . . . .	6	oz.

2 tablespoonfuls for a dose.

### 3.—*Diarrhœa Mixture*

Elixir of vitriol . . . . .	2	drachms
Laudanum . . . . .	½	drachm
Spirits of chloroform . . . . .	1½	drachm
Add water to . . . . .	6	oz.

2 tablespoonfuls for a dose.

### 4.—*Soothing Mixture*

Bromide of ammonium . . . . .	1½	drachm
Spirits of chloroform . . . . .	2	drachms
Paregoric . . . . .	1½	drachm
Bicarbonate of soda . . . . .	1	drachm
Add water to . . . . .	6	oz.

2 tablespoonfuls for a dose.



5.—*Clap Mixture*

(This must be well shaken.)

Balsam of copaiba	.	.	.	3 drachms
Sweet spirits of nitre	.	.	.	2 drachms
Friar's balsam	.	.	.	1 drachm
Add water to	.	.	.	6 oz.

2 tablespoonfuls for a dose.

6.—*Stomachic Mixture*

Spirits of chloroform	.	.	.	2 drachms
Bicarbonate of soda	.	.	.	2 drachms
Essence of ginger	.	.	.	1 drachm
Add water to	.	.	.	6 oz.

2 tablespoonfuls for a dose.

7.—*Cough Mixture*

(To be well shaken.)

Powdered ipecacuanha	.	.	.	12 grains
Paregoric	.	.	.	2 drachms
Sweet spirits of nitre	.	.	.	3 drachms
Spirits of chloroform	.	.	.	2 drachms
Add water to	.	.	.	6 oz.

2 tablespoonfuls for a dose.

8.—*Stimulant Mixture*

Aromatic spirits of ammonia	.	.	.	3 drachms
Spirits of chloroform	.	.	.	2 drachms
Add water to	.	.	.	6 oz.

2 tablespoonfuls for a dose.

9.—*Quinine Mixture*

Quinine . . . . . 12 grains  
 Elixir of vitriol . . . . .  $\frac{1}{2}$  drachm  
 Add water to . . . . . 6 oz.  
 2 tablespoonfuls for a dose.

10.—*Witch Hazel Mixture*

Witch hazel (ext. hamamelidis liq.) 1 drachm  
 Water . . . . . 6 oz.  
 1 or 2 tablespoonfuls for a dose.

11.—**Witch Hazel Lotion**

Witch hazel (ext. ham. liq.) . 2 drachms  
 Water . . . . . 6 oz.

12.—**Alum Gargle**

Alum . . . . . 1 drachm  
 Warm water . . . . . 6 oz.

13.—**Caustic Lotion**

Lunar caustic . . . . . 1 drachm  
 Rain or distilled water . . . 6 oz.

14.—**Goulard's Lotion**

Goulard's extract . . . . .  $1\frac{1}{2}$  drachm  
 Add rain or distilled water to . 6 oz.

### 15.—Soothing Lotion

Goulard's extract . . . . .	1½ drachm
Laudanum . . . . .	2 drachms
Add <i>rain</i> or distilled water to . . .	6 oz.

### 16.—Carbolic-acid Lotion

Carbolic acid (pure) . . . . .	1 drachm
Add <i>rain</i> or distilled water to . . .	6 oz.

### 17.—Carbolic Oil

Carbolic acid (pure) . . . . .	1 drachm
Olive oil . . . . .	4 oz.

(Shake and mix thoroughly.)

### 18.—Clap Injection

Sulphate of zinc . . . . .	12 grains
Laudanum . . . . .	1 drachm
<i>Rain</i> or distilled water . . . . .	6 oz.

### 19.—Turpentine Fomentation

Soak a large square of rag in the turpentine liniment, and put it on the skin ; wring out in hot water any old square of flannel or woollen stuff at hand, put this over the turpentine rag, and over both a square of waterproof or any cloth to keep in the heat. Let the fomentation remain on at least fifteen minutes.



### 20.—**Sulphur Ointment**

Mix thoroughly 2 oz. of sulphur with 8 oz. of scalded lard, paraffinum molle, or any other grease that is procurable.

### 21.—**Linseed-meal Poultice**

Use boiling water. Add linseed meal to the water in very small quantities, and mix well, so that the poultice may not be lumpy; spread it quickly and smoothly with a *cold wet* spoon on linen rag, and put it on the part as hot as it can be borne.

### 22.—**Mustard Poultice**

Mix the mustard as usual for the table, and add a little salt and warm vinegar. Spread upon linen, and cover with a thin piece of paper pricked with small holes. Must be kept on about twenty minutes or longer.

### 23.—**Mustard Leaves**

Dip the leaf in warm water and apply it, allowing it to remain on for about half an hour or more. Useful in pleurisy and bronchitis.

## INVALID DIET

*Beef-tea*

Scrape or cut  $\frac{1}{2}$  lb. of meat as small as possible. Put it into an earthenware basin. Pour over it  $\frac{1}{2}$  pint of cold water, and cover it with paper bound tightly round the edges. Place in the hollow of a slow oven for an hour, add salt, and strain off.

*Gruel*

Sprinkle into 1 quart of boiling water 3 table-spoonfuls of oatmeal and a pinch of salt. Simmer slowly for an hour, then strain off.

*Oatmeal Porridge*

Two quarts of water,  $\frac{1}{2}$  lb. of oatmeal, 1 teaspoonful of salt. Have the water boiling, add the salt, sprinkle the oatmeal into the water gradually; whisk well the whole time until all is added. Simmer for one hour.

*Cunji Water for an Invalid*

One quart of fresh water, 3 table-spoonfuls of rice, 1 teaspoonful of lime-juice,  $\frac{1}{2}$  teaspoonful of salt.

Wash the rice and simmer it in the water for one hour. Strain the water off, skim off any scum that may form, add the salt, and leave it to cool. When cold, add the lime-juice.

### *Arrowroot or Cornflour*

Put a dessertspoonful of arrowroot or cornflour into a teacup with a little cold water, thoroughly mix it, then pour in  $\frac{1}{2}$  pint of boiling water or milk, and stir till it thickens. Flavour with sugar and, perhaps, a glass of wine.

### *Barley-water*

Wash a handful of pearl barley in cold water, then simmer it in 3 pints of water for an hour, and flavour with a little lime-juice and sugar.

### *Sago or Cerealine*

Soak a teacupful of either in cold water for an hour, drain it off, and add a quart of fresh water. Let it simmer over a slow fire until it becomes a clear jelly, then sweeten with sugar, and flavour to taste.

### *Imperial Drink*

Dissolve  $\frac{1}{2}$  oz. of cream of tartar in 1 quart of boiling water, and flavour with lime-juice and sugar. This is a very cooling drink in fevers.

N.B.—Cream of tartar is not in the official list, but it is a useful addition and often carried.



*Egg Flip*

Take the yolks of 2 eggs and beat them well up with  $\frac{1}{2}$  pint of milk. A tablespoonful of brandy may be added if desired.

*To Boil Rice*

Put the rice in boiling water and boil for twenty minutes. Pour the rice into a colander, wash well with boiling water without breaking the rice. Place the colander over boiling water, cover with a cloth, and steam for half an hour.

*Linseed-tea*

Put 1 oz. of linseed and 1 pint of boiling water into a covered jar, and allow it to stand for an hour before the fire ; then strain and flavour with a little sugar and lime-juice.

*Toast and Water*

A crust of bread must be toasted till it is almost black, then cold water is poured on it and the whole allowed to stand.

*Lime-juice Drink*

Put 2 oz. of lime-juice and 1 oz. of sugar into 1 pint of water. A little ice will improve it.

## ACT OF PARLIAMENT

CERTAIN SECTIONS OF THE MERCHANT SHIPPING ACT,  
1894

## SECTION 200

(1) The Board of Trade shall issue scales of medicines and medical stores suitable for different classes of ships and voyages, and shall also prepare or sanction books containing instructions for dispensing the same.

(2) The owner of every ship navigating between the United Kingdom and any place out of the same shall provide and cause to be kept on board a supply of medicine and medical stores according to the scale appropriate to the ship, and also the said books or one of them.

(3) The master or owner of every such ship, except in the case of—

(a) Ships bound to European ports or ports in the Mediterranean Sea ; and

(b) Such ships or classes of ships bound to ports on the Eastern coast of America north of the thirty-fifth degree of North latitude, and to any islands or places in the Atlantic Ocean north of the same limit, as the Board of Trade may exempt ;

shall provide and cause to be kept on board a sufficient quantity of anti-scorbutics, in accordance

with the regulations in the fifth schedule to this Act, and those regulations shall have effect as part of this section, and the master shall serve out the anti-scorbutics to the crew according to the said regulations ; and if a seaman or apprentice refuses or neglects to take the anti-scorbutics when served out, that fact shall be entered in the official log-book, and the entry shall be signed by the master and by the mate or some other of the crew, and also by the medical practitioner on board, if any.

(4) If any requirement of this section with respect to the provision of medicines, medical stores, book of instruction, or anti-scorbutics, is not complied with in the case of any ship, the owner or master of that ship shall, for each offence, be liable to a fine not exceeding twenty pounds, unless he can prove that the non-compliance was not caused through his inattention, neglect, or wilful default.

(5) If any requirement of this section with respect to the serving out of anti-scorbutics or making an entry in the official log-book is not complied with in the case of any ship to which the requirement applies, the master of the ship shall, for each offence, be liable to a fine not exceeding five pounds, unless he can prove that the non-compliance did not arise through any neglect, omission, or wilful default on his part.

(6) If it is proved that some person, other than the master or owner, is in default in any case under this section, that person shall, for each offence, be liable to a fine not exceeding twenty pounds.



(7) If any person manufactures, sells, or keeps, or offers for sale any medicines or medical stores for use on board ship which are of bad quality, he shall, for each offence, be liable to a fine not exceeding twenty pounds.

FIFTH SCHEDULE, REFERRED TO ABOVE

REGULATIONS TO BE OBSERVED WITH RESPECT TO  
ANTI-SCORBUTICS

*Furnishing of Anti-scorbutics*

(1) The anti-scorbutics to be furnished shall be lime or lemon juice, or such other anti-scorbutics (if any) of such quality, and composed of such materials, and packed and kept in such manner as her Majesty by Order in Council may direct.

(2) No lime or lemon juice shall be deemed fit and proper to be taken on board ship, for the use of the crew or passengers thereof, unless it has been obtained from a bonded warehouse for and to be shipped as stores.

(3) Lime or lemon juice shall not be so obtained or delivered from a warehouse as aforesaid, unless—

(a) It is shown, by a certificate under the hand of an inspector appointed by the Board of Trade, to be proper for use on board ship, the certificate to be given upon inspection of a sample, after deposit of the lime or lemon juice in the warehouse ; and

(b) It contains fifteen per cent. of proper and palatable proof spirit, to be approved by the inspector or by the proper officer of Customs, and to be added before or immediately after the inspection thereof ; and

(c) It is packed in such bottles, at such time and in such manner, and is labelled in such manner as the Commissioners of Customs may direct.

(4) If the lime or lemon juice is deposited in a bonded warehouse, and has been approved as aforesaid by the inspector, the spirit, or the amount of spirit necessary to make up fifteen per cent., may be added in the warehouse, without payment of any duty thereon; and when any spirit has been added to any lime or lemon juice, and the lime or lemon juice has been labelled as aforesaid, it shall be deposited in the warehouse for delivery as ship's stores only, upon such terms and subject to such regulations of the Commissioners of Customs as are applicable to the delivery of ship's stores from the warehouse.

(5) The lime or lemon juice with which a ship is required by this Act to be provided shall be taken from the warehouse duly labelled as aforesaid, and the labels shall remain intact until twenty-four hours at least after the ship has left her port of departure on her foreign voyage.

#### *Serving-out of Anti-scorbutics*

(6) The lime or lemon juice shall be served out with sugar (the sugar to be in addition to any sugar required by the agreement with the crew).

(7) The anti-scorbutics shall be served out to the crew so soon as they have been at sea for ten days, and during the remainder of the voyage, except during such time as they are in harbour, and are there supplied with fresh provisions.

(8) The lime or lemon juice and sugar shall be served out daily at the rate of an ounce each per day to each member of the crew, and shall be mixed with a due proportion of water before being served out.

(9) The other anti-scorbutics, if any, provided in pursuance of an Order in Council shall be served out at such times and in such quantities as the Order in Council directs.

#### SECTION 201

(1) The master of a ship shall keep on board proper weights and measures for determining the quantities of the several provisions and articles served out, and shall allow the same to be used at the time of serving out the provisions and articles in the presence of a witness whenever any dispute arises about the quantities.

(2) If the master of a ship fails, without reasonable cause, to comply with this section, he shall, for each offence, be liable to a fine not exceeding ten pounds.

#### SECTION 202

(1) It shall be the duty of the medical inspector of ships for the port appointed under this part of this Act to inspect the medicines, medical stores, and anti-scorbutics with which a ship is required by this part of this Act to be provided.

(2) For the purpose of that inspection a medical inspector of ships shall have all the powers of a Board of Trade inspector under this Act, and shall act, if appointed by a Local Marine Board, under the direction of that Board (except in special cases in which the Board of Trade require an inspection to be made), and if appointed by the Board of Trade, under the direction of the Board of Trade.



(3) The medical inspector of ships shall make his inspection three clear days at least before the ship proceeds to sea, if reasonable notice in writing for the purpose is given to him by the master, owner, or consignee, and, where the result of the inspection is satisfactory, shall not make another inspection before the ship proceeds to sea, unless he has reason to suspect that any of the articles inspected have been subsequently removed, injured, or destroyed.

(4) If the medical inspector of ships is of opinion that the articles inspected are deficient in quantity or quality, or are placed in improper vessels, he shall give notice in writing to the chief officer of Customs of the port where the ship is lying, and also to the master, owner, or consignee thereof; and the master of the ship before proceeding to sea shall produce to the chief officer of Customs a certificate, under the hand of the same or some other medical inspector of ships, that the default found by the inspector has been remedied; and if that certificate is not so produced, the ship shall be detained until the certificate is produced, and if the ship proceeds to sea, the owner, master, or consignee of the ship shall, for each offence, be liable to a fine not exceeding twenty pounds.

#### SECTION 203

(1) A medical inspector of seamen appointed under this part of this Act shall, on application by the owner or master of any ship, examine any seaman applying for employment in that ship, and give to

the superintendent a report under his hand stating whether the seaman is in a fit state for duty at sea, and a copy of the report shall be given to the master or owner.

(2) The applicant for that medical examination shall pay to the superintendent such fees as the Board of Trade direct, and those fees shall be paid into the Mercantile Marine Fund.

#### SECTION 204

(1) The Local Marine Board at a port may, upon being required by the Board of Trade to do so, appoint and remove a medical inspector of ships for the port, and, subject to the control of the Board of Trade, may fix his remuneration; and at any port where there is no Local Marine Board, the Board of Trade may appoint and remove a medical inspector of ships, and may fix his remuneration.

(2) The Local Marine Board, and at a port where there is no such Local Marine Board the Board of Trade, may appoint and remove a medical inspector of seamen, and that inspector shall be paid out of the Mercantile Marine Fund such remuneration as the Board of Trade direct.

## FORM OF CERTIFICATE OF BIRTH

BIRTH OF A CHILD AT SEA ON BOARD						
Date of Birth	Name	Sex	Name and Surname of Father	Name and Maiden Surname of Mother	Rank or Profession of Father	Signature of Master of Ship







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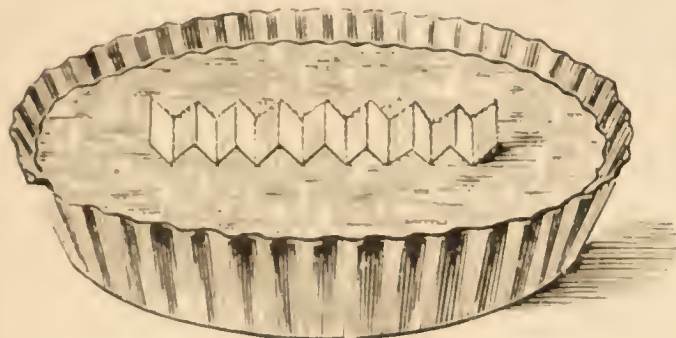
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